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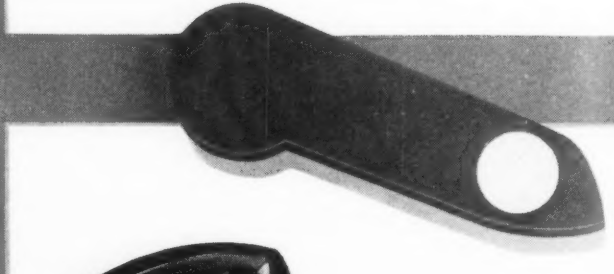

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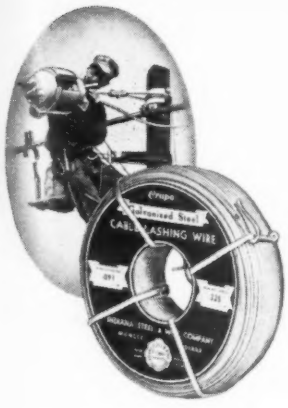

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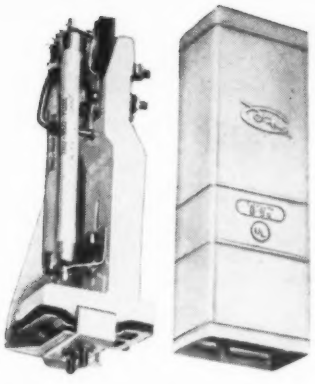

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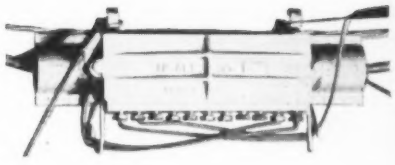

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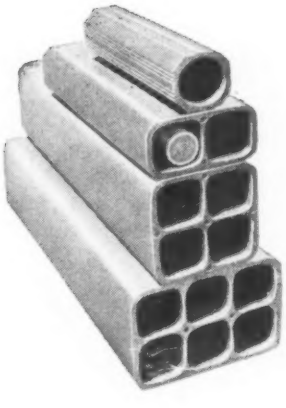

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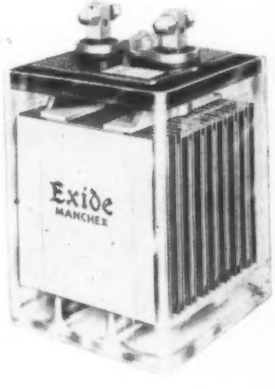

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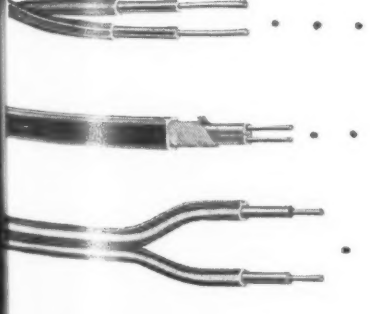

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FLASHES AND PLUGS

DEPTHS OF DEFEAT. A woman in London, England, finds it's easier to pretend that her home is a movie theater than to try to explain that it isn't.

The trouble began a year ago when the telephone directory listed a theater's number as hers.

She appealed to Britain's state owned telephone system. Officials were sorry, but nothing could be done for at least a year and a half. A new directory will be published then. Calls continued to pour in.

"I've been summoned from my bed, from my bath, from my garden and my TV set," mourned the harassed housewife. "I've been called from my kitchen and meals have been ruined. Then I gave up."

Each week now, she looks up the titles of the films the theater will be showing, jots down the starting times and other pertinent information.

"I find it much easier to recite the information than to try to explain the situation," she sighed, "but it does get tiresome."

In a recent week she answered 200 theater calls.

•

THE LONG AND SHORT OF IT. A Minneapolis columnist tells of the two ranchers from South Dakota who had separate rooms at a Minneapolis hotel. In the morning, the first rancher told the switchboard operator to ring the room of his friend.

No answer, so the rancher waited a while, tried again, but still no reply.

"Tell you what you do," suggested the rancher to the operator. "Ring three longs and a short, that's his ring at home."

She did—there was an immediate answer.

•

AIR ATTACK. A telephone company lineman in Fredericksburg, Va., had a new one for his list of occupational hazards: "Attacked by eagle."

He was just starting to spike his way up a pole when the bird flailed at him and then withdrew.

A game warden found the bird—an American bald eagle—had apparently been wounded by a hunter. He tried to heal the bird, but finally had to destroy it. The eagle had a wingspread of 6 feet, 6 inches.

•

SEMPER FIDELIS. The vigilance exercised over human affairs by the telephone operator backfired recently. An excited operator in Marshall, Tex., called police, told them a receiver was off the hook at a local residence and that she could hear sounds of violence.

Police reported she was 100 per cent correct. They found the family clustered about a television set watching a shoot-'em-up program.

CIRCULATION

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Since 1901

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IN THE NATION'S CAPITAL

BY FRANCIS X. WELCH, WASHINGTON EDITOR

Gives impressions of 58th annual convention of the USITA. Noted compelling need for industry unity in face of huge subscriber demand, competition for consumer's dollar and probable attacks on private enterprise.

JUST AS in the case of forest and trees and fine oil paintings, it sometimes takes the separation of a little time and a little distance from an important event in human affairs before the observer can get a clear picture of the whole happening. It was so, in this writer's case, with respect to the recent 58th annual convention of the USITA.

Just being present and hearing, first-hand, the various formal speeches—and the equally important informal speeches—was a rewarding experience for which there can be no substitute, even in reading the reports subsequently reprinted in such detail by TELEPHONY. But as one reflects on who said what, and tries to fit the impressionistic pieces and vignettes together into a balanced whole, there is bound to be an evaluation. Everyone who attended the recent Chicago meeting of the USITA, doubtless experienced this reaction to some degree.

Of course, such impressions are bound to differ greatly with each observer. Here is how your Washington correspondent sized it up, after he had a chance to get back to his own vantage point in the Nation's Capital, and to reread his reports and notes, and generally mull over the whole thing.

First, there was the impression that this 58th convention was considerably more important than the average annual meeting over the years. There were a number of reasons for this. One of the most obvious, of course, was the fact that the national convention in October will be the *only* meeting of the Independent telephone industry, now that it has been decided to dispense with the annual spring executives' meeting of former years.

It was not surprising, therefore, that this was the biggest meeting on record—with general attendance around 3,000. Many of those present were aware that a whole year would have to pass before anything like this would happen again.

But the outstanding impression, which this observer took away from Chicago, was a strong feeling of awareness on the part of the Independent telephone people that their industry is being confronted with a new challenge in carrying out its traditional public service obligation. Furthermore, one senses that there is a resulting feeling of a *need for closer unity* in order to meet this challenge!

The challenge was voiced by many observers, including the very fine lead-off address made at the first general session by the retiring USITA president, Donald H. Campbell, head of the Rochester (N. Y.) Telephone Corp. It was he who pointed out that service demands of the "telephone-subscribing public are multiplying faster than the population itself."

Campbell hammered away at this theme time and again, in the course of his remarks. It well deserved the emphasis he gave it. That is because the industry, in order to meet new service demands, will need new and expanded plant which can only come at higher costs. And, in his very practical analysis of this, Campbell stressed the likelihood that higher rates would be necessary. He summed the whole deal up with the terse observation that "the responsibilities are great, but the rewards should be commensurate."

Speaker after speaker at the Chicago meeting, both at the general sessions and the various special conferences, echoed this growing need for more and better plant to meet an ever-mounting demand for new service and increased use of old service.

One of the most well-rounded and stimulating analyses which this writer has ever heard of the challenge confronting the telephone industry as a whole, was contained in the plea for better "merchandising" of telephone service made by the vice president of the American Telephone & Telegraph Co., B. T. Miller.

Miller gave down-to-earth facts and figures concerning a situation which telephone men and women have known about, in a general way. But they can now look upon these goals as numerical targets for promotional activities for the potential sale of telephone services in the months ahead.

Although over 33 million out of 47 million homes now have telephone service (leaving a large potential of *new* business untapped), Miller pointed out that there is also a vast potential in selling new and different kinds of service to people who are already subscribing on the old basis of a single residence connection. He indicated that the telephone industry is getting into the appliance business, just like gas and electric utilities have done.

A "Cage Opening" Operation

What the Independent telephone people must bear in mind is that the new emphasis on "merchandising," launching on the market and publicizing a variety of telephone appliances and services, is actually a "cage opening" operation.

It is parallel with other "cage opening" operations in other lines of busi-

nesses and services—the fine new automobiles, fine new homes, fine new television sets and luxury items. It means that the long, pent-up telephone subscriber demands, which have been kept under the restrictive bars of plant equipment and plant capacity shortages (in the period just following the succession of Korean hostilities), have now been released.

Insatiable consumer appetites for more and better and different kinds of service *must be met!* Hungry consumer demands are now stalking up and down and across the land. The smart businessmen will see that they are appeased—to his own profit, and a better satisfied public.

To meet its share of this growing demand, the Independent companies must get together, must rely on each other, must seek each other's counsel through the USITA and other ways as never before. In short, an unparalleled telephone subscriber demand for service is now really on the loose. The telephone company which can feed it well and make it happy with adequate facilities and organization, will profit thereby. Companies which cannot meet the challenge may find themselves in serious trouble.

This is definitely *not* to suggest that there is any seller's market in telephone service because of increasing demand. Far from it! On the contrary, it is only by plant expansion, new equipment concepts, and diligent sales promotion that telephone companies will be able to get their share of the consumer's dollar. The seller's market has gone out of existence!

Today the telephone companies are faced with tougher competition for the consumer's dollar than ever before. This is particularly true in the small town, semi-rural, and rural areas so largely served by the Independent companies. These are precisely the areas, as former USITA President Campbell pointed out, which are now growing so rapidly in population and subscriber demand.

But with all due respect to the farmer (salt of the earth and backbone of the nation's economy that he is), he still remains a close man with a cash dollar. Separating him from that dollar is an operation which will command all the salesmanship, backed up by all the plant resources, which the Independent telephone companies can command.

The same goes for the farmer's suburban and urban neighbors. Every new automobile on display, every new piece of farm equipment, every new television set, and every gas and electric household and farm appliance is a competitor with the telephone company for the consumer's dollar.

So, it is going to be a merry race with fine prizes for the swift, but with headaches and exhaustion for the competitors who fall behind in the race. Fortunately, the telephone market is expanding wider and wider *within* the homes, farms, and business places of subscribers already connected. When AT&T Vice President Miller spoke of 33 million kitchens, basements, attics, and other places where telephone service can be installed (now largely without such service), he was literally pointing at gold in mountains still to be mined.

Independent Telephony Now a Family

It is precisely because of this "cage opening" operation that the greater need for unity of purpose and industrial intracommunication among Independents is apparent. If the Independent companies are to meet the new challenge of a voracious public appetite for more and better service, they

Kentucky Company Gets $2,958,000 REA Loan

The REA made two loans totaling $3,175,000 during the week of Oct. 10 to telephone companies in Kentucky and Texas, the U. S. Department of Agriculture announced on Oct. 19. The loan in Kentucky—$2,958,000 to the Northeastern Telephone Corp. of London—was the largest telephone loan to date in the state. The loan makes possible modern automatic service for 6,750 farm families and other rural subscribers in the eastern part of the state. Details of the two loans follow.

Northeastern Telephone Corp., London, Ky., on Oct. 14 was allocated $2,958,000, first loan, to improve and extend rural telephone service in Bracken, Mason and Robertson counties in northeastern Kentucky, and in Clay, Knox and Laurel counties in the southeastern part of the state. This is the largest telephone loan made by REA in Kentucky.

The new borrower, a commercial corporation, plans to use the REA loan funds to provide modern automatic service to 6,750 subscribers in two contiguous areas in Kentucky.

The borrower proposes to acquire from the Northeastern Telephone Co. of Augusta, Ky., automatic magneto and common battery facilities now serving 4,576 subscribers over 613 miles of line in the operating areas.

Present plans call for using 484 miles of the existing line in place, rebuilding 115 miles and retiring the remainder. To this the borrower plans to add 673 miles of new line. Automatic central offices for the proposed expansion will be located at Augusta, Barbourville, Brooksville, East Bernstadt, Flat Lick, Germantown, Johnsville, London, Manchester and Mt. Olivet. A toll center at Brooksville is planned to handle the northern section of the system and another at London is proposed for the southern section. The London office will serve as headquarters for the entire system.

The rehabilitation and new construction planned by the borrower will provide improved service for the existing subscribers and modern automatic service for 2,174 rural families now without telephones in the expanded area. The system will consist of 1,272 miles of line when completed.

President of the Northeastern Telephone Corp. is LeRoy T. Carlson.

Romain Telephone Company, Inc., Plains, Tex., also on Oct. 14 was extended a loan of $217,000, first loan, to improve and expand rural telephone service in Yoakum County.

The company now furnishes magneto service to 218 subscribers over 75 miles of line. With the REA loan it proposes to convert the present system to automatic operation, and add facilities to serve 224 additional rural subscribers in and around Plains.

Of the existing line, 5 miles will be used in the system and 70 miles retired. New facilities will include 172 miles of line and a combined headquarters and central office building in Plains. These proposed changes will mean new and improved service for 442 families and other rural residents in the county.

Pierre W. St. Romain is president and manager of the Romain Telephone company.

must seek each other's counsel as never before. The day when any old kind of telephone service was "all right for the country" is gone forever.

Indeed, there is likely to be *far more* subscriber demand released in the Independent service areas—for kitchen and garage extensions, multi-subscriber services, and all the various beautifying and labor-saving and more convenient telephone appliances—than in much of the big city service areas.

After all, the Independents operate primarily in the home-owning regions, outside of, or just beyond, the giant metropolitan cities where much of the service is in apartment dwelling canyons. It stands to reason that there is only a limited opportunity for increasing per station revenues, along these bigger and better telephone business lines, in the two- or three-bedroom apartments of a large city, as compared with the sprawling ranch-type homes now being built in the small city and suburban areas.

If the Independent companies are going to meet this mushrooming consumer demand being spawned in the very heart of their service areas, they are going to have to get together on all kinds of programs—advertising programs, equipment programs, plant construction programs, public relations and rate structure programs. The USITA and state associations are obvious forms of communications between these companies. But other means, as well, will be found and must be found, if the Independent companies are not to fall behind in the race which is ahead for the consumer's dollar.

This observer could sense the growing awareness of this, among the Independent telephone people at the recent Chicago meeting. He could sense a more family-like feeling among the men and women who have grown up in the business, and have come to rely upon each other through years of association and understanding.

It might well be that, some years hence, the Independent telephone people will look back on the 58th annual convention in Chicago as a milestone in the coalition of the industry—a year that marked the real coming of age of the Independent family, as a family.

Changes and dislocations are ahead, inevitably. No far-flung industry, such as the Independent telephone industry, ever grew into a strong economic force without such dislocations. But the "rewards should be commensurate," to use Don Campbell's words, which may well be prophetic.

If the Independent industry meets this challenge head on, if it acquits itself of its full responsibility for public service, there will be plenty of rewards to go around to every company, and to every man and woman now conscientiously dedicated to the business, as a future career. They will find that the surface has only been scratched.

Within less than a decade there will be more business, dollarwise and unitwise, for every segment of the industry, both operating and manufacturing, than any of these same people could have dreamed of only a few years ago. The simple challenge is to go out and get it, and to help each other in the process.

Some years from now we may look back and realize that the Independent telephone industry is now passing through a phase which the Independent automobile industry passed through some years ago—making due allowances for inherent differences between regulated and nonregulated industries. The Independent industry is growing out of its Maxwell-Chalmers phase—to pursue the automobile analogy.

The Maxwells and Chalmers' were good, honest automobiles of their day, and their memories are rightly honored in automobile history. But the consumer demand of recent years required the automotive industry to find ways and means for furnishing roomier and better automobiles.

So it is with the modern telephone service demand. There was not a single manufacturer whose wares were on exhibit, nor an operating company whose officials were in attendance in Chicago, who does not stand to gain by as much business as he can possibly handle, if he is alert to the new opportunities.

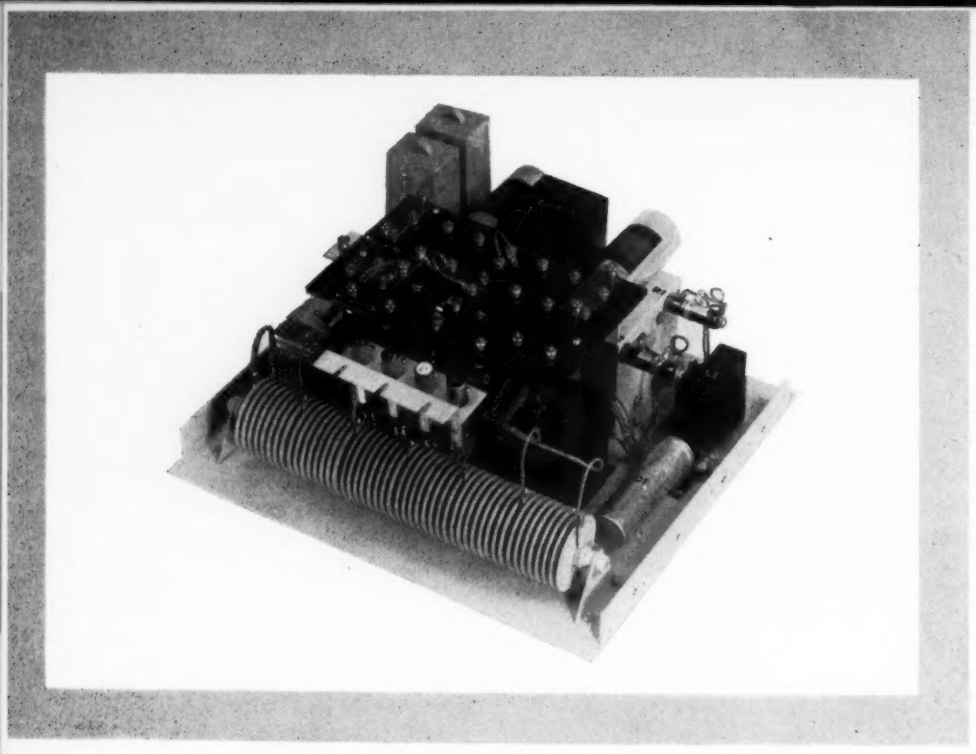
That is the impression this observer brought away from Chicago. It was a conviction that the day of free and easy methods, which may have been admirably suitable to the past, cannot survive in the high-pressure period into which the industry is now emerging. Yesterday's equipment and operating standards will not do for today, and may be hopelessly outclassed tomorrow. Independent telephony is a dynamic and exciting business. The people who are in it now seem to recognize that and they are responding to this challenge.

But the meaning of the 58th convention would not be complete without equal emphasis on the need for hanging together in the face of common perils. The chairman of the board of the Arkansas Power & Light Co., C. Hamilton Moses, outlined this so well in his stirring address at the first general session. The Independent industry's position, in the over-all structure of the nation's private enterprise economy, cannot be locked off into a watertight compartment of self-interest. Isolationism for a single industry can be just as dangerous as isolationism among naturally allied nations of the world.

Whether they like it or not, the Independent companies—along with the Bell System companies and the other utility industries—are going to find themselves the targets of unfair political and economic attacks by the enemies and critics of our private enterprise system. They are even going to feel the impact of these attacks during the forthcoming presidential election campaign of 1956, in which the private enterprise system is bound to become an issue, more or less.

And so again we have a demonstrable need for a new unity, a new feeling of mutual relationship between those who have faith and confidence, as well as a financial stake in, the private enterprise system. It goes without saying, the Independent telephone industry is part of this over-all picture, and the responsible men and women in it would not want it otherwise. Their national association, the USITA, has shown repeatedly that it is eager, alert, and willing to join with other industries on legislative matters, on administrative matters, and general policy matters to protect the basic soundness of our enterprise economy. This broad and serious obligation continues to grow in size as problems of government and industry relationships multiply in Washington.

Summing up, there probably never has been a time when the need for unity and mutual dependence was as great and so apparent in the Independent telephone industry. And the 58th annual USITA convention at Chicago clearly faced up to its recognition of that responsibility. It may well be long remembered as the birthplace of a new spirit of family relationship which will carry the industry on to greater triumphs in a proud tradition of public service than ever before.



This power supply runs on either 110 volts ac, or 24 or 48 volts dc. The two cylindrical units at the top are the regular and spare vibrators for use on dc. At the bottom, the long string of disks is the rectifier stack. Above it is a set of alarm lamps. Under the main panel in the middle are located the filter chokes and condensers. This plant automatically switches over to dc operation when ac power fails.—Photo courtesy, Lorain Products, Inc.

Power supplies for REPEATERS AND CARRIERS

Copyright 1953 by Telephony Publishing Corp.

By HAROLD B. McKAY

PART 1

DEVICES using vacuum tubes, such as repeater and carrier systems, often require power supplies of a voltage which is different than the standard central office battery voltages. In addition, some type of regulating equipment is often needed to keep the voltages within certain limits.

While some treatment of this subject was contained in the articles on repeaters and carriers in past issues of this magazine, it was felt that a better explanation of the operation of these power systems could be given if the subject was treated separately. Also, both repeaters and carriers have similar power requirements, so this one article may be regarded as a supplement of the other two.

* * * *

While some vacuum tubes such as the 28D7 will operate with 28 volts on

Reprints Will Be Available

This is the seventh of a series of nine articles—six on "Voice Frequency Repeaters" and three on "Power Supplies for Repeaters and Carriers."

The author, Mr. McKay, will be remembered for his three series of popular articles on "Principles of Microwave Operation"; "Electrical Principles Used in Carrier Systems"; and "Corrosion of Underground Cables" and other articles published in TELEPHONY.

These repeater articles will be invaluable as employe training material and if firm orders are received for a sufficient number of reprints (in booklet form) to justify reprinting, they will be available following publication of the nine articles.

Telephone companies desiring reprints are asked to enter their reprint orders during publication of the articles. Prices of the booklet form of reprint are as follows:

1- 100 copies	each	$.85
101- 200 copies	each	.80
201- 300 copies	each	.75
301- 400 copies	each	.70
401- 500 copies	each	.65
501-1,000 copies	each	.60
Over 1,000 copies	each	.50

both plate and filament, most circuit designs today use higher plate voltages because of the greater power output which can be obtained from the tubes. In telephone circuits, a 130 plate voltage is commonly used. The choice of this voltage probably developed from the use of this voltage in telegraph circuits. Larger toll offices contained batteries of this voltage, and it was a natural development to connect repeaters and later carrier equipment to this battery.

Today, this method is still used in offices which have 130-volt batteries. In some cases, it has been worthwhile to install a 130-volt battery where none existed before, where a large development in carrier or repeaters is expected. Batteries, with the attendant charging and voltage regulating equipment, are expensive, but have the advantage of continuous service when the ac power fails.

AC Power

For smaller installations, where the installation of a 130-volt battery is not justified, power supplies which make dc from the 110-volt ac are ordinarily used. To provide continuity of service, stand-by ac generators may be used. In addition, a type of power supply has been developed which will supply the 130 volts from a 24 or 48-volt central office battery when the ac fails.

Such a system can be built to change over from the ac to the battery so rapidly that none of the calls in progress will be lost. The circuit features of such a device will be described in this article. One of the most simple and widely used sources of dc plate voltages is the ac "power pack" as it was once called in the radio trade. In the telephone business it is used on repeaters, carriers and amplifiers. Some manufacturers include such a power supply in the equipment, and provide lugs where cross-connections can be made to connect the device for either ac or central office battery operation. Other manufacturers make the power pack as a separate unit, to be ordered if needed.

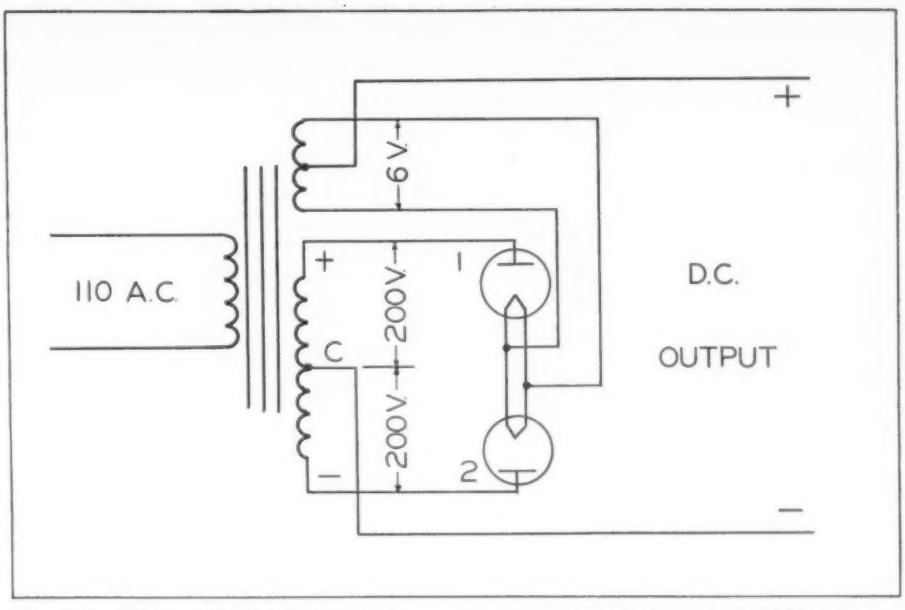


Fig. 1.1. This is the basic circuit for a power supply which converts 110 volts ac into dc. The dc output is normally sent through a filter before being used. (All drawings in this series are by Victor Willard.)

Designs may vary with different makes, but the basic principle is the same. A typical power supply of this sort is shown in Fig. 1.1—it consists principally of a transformer and a rectifier type vacuum tube.

Operation

The operation of this circuit may be thought of in the following manner:

When 110 volts ac enters the primary of the transformer, a higher voltage appears in the secondary. This voltage from the secondary is directed into the plates of the two vacuum tubes.

Now, if at any instant one end of the transformer winding is positive, the other end must be negative. As described in the author's series of articles entitled "Electrical Principles Used in Carrier Systems" (available in booklet form from TELEPHONY), a vacuum tube will conduct only when the plate is positive. Therefore, at any one instant only one of the two tubes will draw electrons from the filament to the plate.

For instance, assume that the top-end of the transformer is positive as shown. Tube 1 is conducting because electrons are being attracted to the positive plate. No current flows in tube No. 2, because the plate is negative and repels rather than attracts electrons.

You can now trace a complete dc circuit through this power supply as follows: Starting at the positive output pole, to the 6-volt transformer winding, to the filaments, to the plate of tube No. 1, to the top (plus) terminal of the transformer, to the center-tap "C" and out on the negative pole.

Note that in the above tracing, the lower half of the transformer was not used, nor was tube No. 2.

When the alternating current in the transformer reverses and the top-end becomes negative, the bottom-end will then be positive. When this happens the bottom tube will conduct and the top will not.

Make the above described tracing again, but this time go through the bottom tube. Notice that no matter which way the current reverses, the positive and negative dc at the output always come out the same. There are simpler methods of accomplishing the same result, but this circuit is especially given here because it embodies all of the basic principles likely to be found in vacuum tube power supplies.

It is noteworthy, in passing, that this same basic hook-up is also used with selenium rectifiers as well as vacuum tubes, and also with tungars,

(Please turn to page 43)

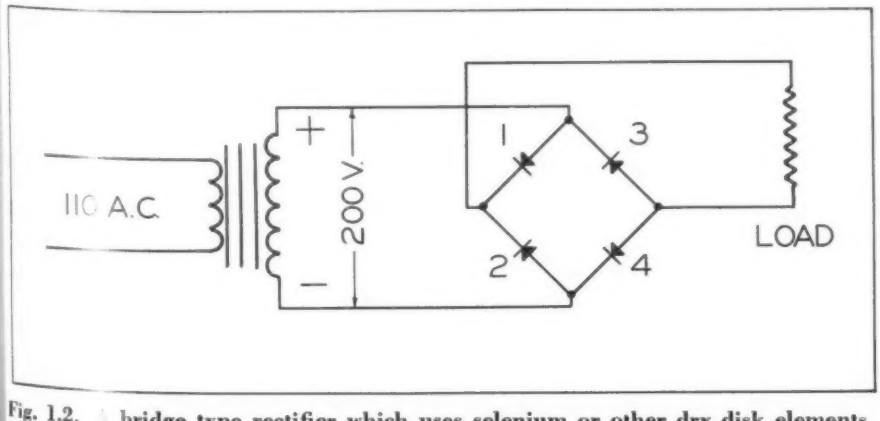


Fig. 1.2. A bridge type rectifier which uses selenium or other dry disk elements. A filter, though not shown, would ordinarily be used with this power supply.

TROUBLE CLEARING

Common Sense Battery Maintenance—Sec. III

BY L. N. MARTIN

PART 45. The preceding article in this series appeared in the June 18 issue, p. 25.

OUR PREVIOUS article discussed "sulfation," which is the most common trouble experienced with a battery on automatic float and is a condition that is receiving increasing attention by both the large telephone companies and the battery manufacturers.

Sulfation is primarily due to undercharging. When a battery is maintained by one of the older charge-discharge methods it is subject to a somewhat opposite kind of trouble caused by overcharging (i.e., too much charging). This trouble could appropriately be called "premature aging." This brings up the question: Why does a battery age?

Theoretically, a battery should last forever as the chemical changes caused by discharging are reversed on charge and the battery is restored to its original condition. No part of the battery is used up or consumed. However, every one knows that a battery does age and ultimately becomes worthless and has to be abandoned. One objective of good maintenance is to slow down the aging process and prolong the life of the battery.

The aging of a battery is brought about by mechanical rather than chemical causes. The chemical reactions cause expansion and contraction of the active material and hence produce mechanical movement. Expansion and contraction is also caused by changes in temperature. A battery heats when on charge and cools again when it is at rest or on discharge. The temperature of the battery also varies with the room temperature. The expansion on charge is greatest in the active material of the positive plates and is often sufficient to warp and crack these plates. In the old days when charging, that we would now call very excessive, was the rule, it was not uncommon to find large pieces of the positive plates lying in the sediment at the bottom of the tank. Sometimes more than half of a positive plate would be broken off. The gases which form within the active material during charge also cause mechanical pressure and movement as they escape.

In addition to the force that bends and breaks the plates, the expansion of the active material forces some of it out of the retaining pockets so that it drops to the bottom of the tank and is lost in the sediment. Also, when active material is formed by the chemical reaction of charge or discharge, some of it is deposited on the outside of the plates rather than in the recesses designed for that purpose. This soon dislodges and is lost in the sediment. Thus, when too much of the active material that is vital to the operation of the cell has been lost in the sediment the cell reaches the end of its useful life.

The amount of sediment in the bottom of the cell is a reliable measurement of the actual age of the battery (but not necessarily of its age in years). The battery makers know the amount of sediment that will form during the life of a cell and in all modern cells they leave room for it so the telephone man never has to remove sediment. Suppose that for a certain type cell the battery company says that the maximum sediment will be 4 inches and that the telephone company finds that there is now 3 inches of sediment. They can be reasonably sure that three-fourths of the useful life of that cell has passed.

Since this aging process is caused mostly by charging and discharging we would expect a battery to have the longest life under a continuous float routine; a shorter life under a charge-discharge routine; and a still shorter life under a careless charge-discharge routine—and such is the case.

Battery companies make an estimate of the life of their batteries under various conditions. The following is a portion of such a table issued by one manufacturer:

ESTIMATED LIFE—Years

	Floated	*Lightly Worked*	*Worked*
Type 1....	18	10	7
Type 2....	14	8	6
Type 3....	14	7	5

It will be seen that this manufacturer estimates that the life of his batteries under float will be almost three times as long as when "worked" (i.e., charged and discharged). Our own experience indicates that, without any mishap, the life of a battery that has been carefully maintained by a float routine such as we have recommended in these articles, will exceed the manufacturers estimate. On the other hand a careless charge-discharge routine will ruin a battery in less time than the above table suggests.

The manufacturers are continually improving their cells and modern cells have a much longer life than those made some years ago. They try to make their cells as foolproof as possible so that they will stand up even under the most adverse conditions. However, claims for the cells should not be misunderstood. Their lives will be prolonged by good maintenance and the tests and inspections that we have recommended should be carried out with even the best batteries.

The improvement in batteries has been mostly in the mechanical construction of the grid or framework of the plates, the material and construction of the separators, and the method of assembling the plates and separators. However, there is one improvement that is rather basic and which should be understood by all telephone men.

The reader has undoubtedly seen the "lead-calcium" battery advertised. The first thing to understand about this battery is that it is not an entirely

new type of battery. The active materials have not been changed and the useful chemical reactions are just the same as in the older lead-antimony cells. The change is in the alloy used for making the "grid," or basic framework of the plate. Pure lead is entirely too soft and weak for this purpose and so almost since the invention of the storage battery an alloy containing from 7 per cent to 12 per cent of antimony has been used. This increases the tensile strength about 300 per cent.

At first, it was not supposed that this would have any effect on the chemical reactions in the cell but many years ago it was discovered that antimony did cause some very undesirable chemical reactions which affected the efficiency of the cell and shortened its life. About 22 years ago experiments were begun in the use of calcium instead of antimony to alloy the lead. This study has been very thorough.

Many difficulties were encountered and had to be overcome before a practical method of manufacturing the plates was developed. These batteries still cost more than the lead-antimony type, but it is believed that this cost will be more than offset by the longer life of the cells. Only a small amount of calcium (1 per cent or less) is used and yet the tensile strength is somewhat higher than that of the lead-antimony grid. The calcium causes no chemical reaction whatever.

Some of the advantages of the lead-calcium battery over the lead-antimony type are: Longer life, especially in cycle service (charge-discharge); higher efficiency; less gassing and hence less loss of water, and less self-discharge on open circuit.

Field trials of the new battery have been completed and the battery is now in regular production by all of the battery manufacturers making telephone batteries. Production was started first on the larger size batteries. A telephone company should, therefore, not hesitate to buy one of these lead-calcium batteries and a company in need of a new battery should certainly give this type careful consideration. On the other hand we would not go so far as to say that the lead-antimony type is entirely obsolete. Whatever type of battery you buy, *take care of it.*

Now, let us return to the subject of battery trouble due to untimely aging or deterioration when on a cycle routine. Obviously the best remedy is to change to automatic float. Before the first cost of control equipment, or a new regulated rectifier is turned down, consider the savings that will be made by the change. How much per year will be saved by a battery that lasts 18 years or more, in comparison with a battery that lasts seven years or less? How many man-hours will be saved annually by automatic float compared to a manual charge-discharge routine? How much will be saved by the reduction in relay trouble that comes with constant voltage? We believe that in most cases a change to automatic float can be "proved in."

If, for some reason, the change cannot be made at the present time, the following rules will mitigate this type of trouble:

(1) Watch each charge to see that it does not exceed the full charge point. A battery is said to be fully charged when the specific gravity of the pilot cell is within a certain number of points (usually five) of that attained on the last equalizing charge. To try to bring the battery up (on each regular charge) to where it was when last equalized would be excessive charging and would deteriorate the battery.

(2) Never exceed the normal charging rate specified by the manufacturer.

(3) Watch the temperature during charge. Never let it exceed 90 degrees F. (Use special care during hot weather.) If the temperature of the electrolyte approaches 90 degrees reduce the charging rate and ventilate the battery room.

(4) Do not give an equalizing charge more often than once per quarter. However, the equalizing charge cannot be entirely omitted as it is an essential part of the charge-discharge routine.

A cell may develop a short even with the best of care. The separators are perforated to permit the free circulation of the electrolyte. The active material sometimes builds up on one plate until it extends through a perforation in the separator and touches the plate on the other side which is of opposite polarity. Fortunately, this does not become a "dead short" but it produces a high resistance. However, there is some discharge within the cell which causes it to lose specific gravity and voltage.

The remedy is usually simple. Just charge for a few minutes at a high rate (say double the normal rate) and, in most cases, the short will be burned out. However, if the short persists something must be done to save the cell. In an open tank the separators can be moved about, or a thin strip of wood forced between plate and separator, to break the short. If a short persists in a closed cell it may involve dismantling the cell which is a job for an expert in that line.

In old cells, which have been badly neglected, warped or broken plates may cause a "dead short." The cell is then out of service and will soon be completely discharged. A major battery job is called for. However, the cell should not have been allowed to get in that condition.

A glass cell may be shattered by a mechanical accident or by an internal explosion. Cells of other materials may develop leaks and a closed cell of any material may be blown up by a gas explosion. In any case, the cell is out of service and if the battery consists of only one string, the battery is out and a total office failure results. The duration of that failure will depend on what action the man in charge takes and what equipment he has on hand for such an emergency.

In every battery room, there should be a jumper for shorting out one cell. It should be made of the same size wire or cable that is used for the connections at the two poles of the battery and each end should be equipped with a clamp large enough to make a good connection that will not heat.

If no end-cells are provided there will be a drop in voltage because of the missing cell and in the case of a 24-volt battery, this drop will be about 9 per cent and a large amount of relay trouble may be expected. However, it is better to spend the time restoring the voltage rather than try to readjust a large number of relays.

The next step is to restore the cell. A company using glass jars should certainly keep one or two spare jars on hand at all times; also enough ready mixed electrolyte to fill one or two cells. With other types of jars or tanks the leak can often be repaired but the electrolyte should be on hand. If there is to be more than a few minutes delay in replacing the cell the negative plates must be kept wet.

Another "out" is to replace the cell or cells with automobile batteries, which may be purchased or rented in even a small rural community. Remember, if there is little danger of a power failure or the office has an engine-generator set, it is not necessary that the temporary cell be as large as the other cells. The object is to maintain the voltage. Automobile batteries come in units of three cells in series and it is not an easy job to rearrange these in parallel. If only one cell of the battery is out of service, probably the quickest way to restore service would be to disconnect two more cells and connect the three cell automobile battery in their place.

We recall a case where the man in charge restored service by quick thinking. This man was working alone in a small community automatic exchange one evening when a battery explosion

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Officers and directors of the Independent Telephone Pioneer Association. Left to right: Foster B. McHenry of Jefferson City, Mo., president; Kelley McNish of Bristol, Tenn.; Ray Dalton of Everett, Wash.; Samuel F. Nixon Sr. of Westfield, N. Y.; Mayme Workman of Springfield, Ill., executive secretary-treasurer; Genevieve Sauerhage of Springfield, Ill., vice president; Daniel H. McNulty of Chicago, Ill., vice president; W. P. Strickenburg of Meadville, Pa.; D. B. Corman of London, Ky., and R. N. Cole of Portsmouth, O.

Independent Pioneers Hold Meeting

By R. C. RENO

THE ANNUAL meeting and entertainment program of the Independent Telephone Pioneer Association, on Oct. 11, as usual, attracted a full-house audience. The meeting was held during the annual convention of the United States Independent Telephone Association in Chicago.

Following the association's annual business meeting the Pioneers were entertained with an outstanding musical program, arranged by the Pioneer Entertainment Committee, of which W. J. Pfaender of Chicago, was chairman.

The business meeting was presided over by Association President Ray Dalton of Everett, Wash. In opening the meeting Mr. Dalton commended Executive Secretary Mayme Workman for her efficient handling of the association's affairs and he urged all men and women who have had 15 or more years' service in the Independent industry to apply for membership in the association.

The Pioneer membership hit a new high during the past year, Mrs. Workman stated in her annual report. At Sept. 30, there were 4,153 members, an increase of 32 over the same date of previous year.

During the past 12 months, the association enrolled 352 new members, re-instated 63 and added two associate members. There were 303 members dropped for non-payment of dues, 22 members resigned and 61 died during the year.

As of Sept. 30, the association membership was divided as follows: Direct members, 1,234; chapter members, 2,307; club members, 314; associate members, 127 and life members, 171.

In a letter received by Mrs. Workman from J. K. Johnston of Indianapolis, Ind., founder of the association, which Mrs. Workman read at the meeting, it was stated that the association was formed in 1920 with 78 charter members.

Mrs. Workman also reported that she had attended conventions of the following state associations: North Carolina, Virginia-West Virginia, South Carolina, Alabama-Mississippi, Georgia, Florida, Illinois, Indiana, Missouri-Kansas. She also attended the USITA Executives' Conference as well as meetings of the Pioneer Chapters in Indiana and Hawaii.

The resolutions committee, headed by B. H. Piepmeier of Black River Falls, Wis., submitted a resolution commemorating the deaths of 61 Independent Pioneers. Those whose deaths were reported during the last year were:

H. F. Apking of Lincoln, Neb.; L. A. Arvig of Pequot Lakes, Minn.; John R. Bailey of Williamsport, Pa.; Charles A. Barkalow of Eldon, Mo.; William H. Brown of Kennard, Va.; W. E. Bryson of Gibsonia, Pa.; Edward S. Carroll of Erie, Pa.; William A. Christians of Johnson Creek, Wis.; Herbert E. Clapham of La Grange Park, Ill.; Warren B. Clay of Hutchinson, Minn.; George E. Codington of Auburn, Neb.

Harve Colvin of Lincoln, Neb.; Jesse M. Comer of Elkhart, Ind.; Samuel A. Coover of Sidney, O.; John C. Crowley Jr. of St. Paul, Minn.; Delbert J. Deuink of Cassadaga, N. Y.; Cecil C. Donley of Lincoln, Neb.; Michael F. Egan of Lincoln, Neb.; Rose Fankhauser of Humboldt, Neb.; Everett J. Feller of Emmetsburg, Ia.; Arthur L. Fisher of Rocky Mount, Va.; B. L. Fisher of Martinsville, Va.

James R. Forbes of Waterford, On-

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today's Highlights

of finance-taxes-business trends

by Willard F. Stanley

SLIPPING STOCKS: Somebody reversed the stock-market escalator which has been moving up for so long, and now the stocks' slips are really showing. As everybody knows, the President's illness touched off the decline, helped by the vulnerable position of the market after a nearly vertical two-year rise. The selling on the original "black Monday" (Sept. 26) was principally due to fear of the political and economic impact of the President's condition, but later declines probably reflected other factors also. While disappointing to owners of stocks, the movement seems a healthy one for our economy. Dividend yields had fallen, and price-earnings ratios risen, to unreasonable levels in many cases—sorely needing correction.

At this writing (Oct. 20), the increase in market averages over Dec. 31, 1954 (measured by the combined 50 stock average of the New York Times) has been reduced to about 13 per cent. A month ago such increase was about 21 per cent. Thus the past 30 days have obliterated a good part of the total increase in stock values for this year.

But while stocks slip, the business picture remains mainly on the sunny side. Statistics continue to indicate an era of general prosperity, with concomitants of high employment, liberal spending and consequent high productive activity. As an example, September retail sales throughout the nation were 13 per cent above those for the same month last year. A small cloud on the far horizon was a 6 per cent drop in home building contracts for September over last year – first such decrease in a long time. So – with business continuing good, stock averages may level off and stage some recovery – except in the unlikely event that fear of political uncertainties assumes panic proportions.

* * *

MONEY COSTS: Within the past two weeks a meeting of Federal Reserve Bank officials decided the drop in the stock market didn't warrant a change in policies affecting money rates. With business remaining good, demands for money will continue high and rates have been pushing gradually upward. On Oct. 17, for instance, the U. S. treasury paid about 2.33 per cent for 91-day treasury bills, the highest rate in nearly two and a half years. Rates for various kinds of commercial paper continue their slow but steady climb.

As to long-term money rates (much more important to utilities – since they must be lived with for many years) the picture shows some contradictory slants. A recent compilation of an investment firm showed utility bond average yields up

Mr. Stanley, formerly financial vice president of Southwestern Public Service Co., an electric utility with over 160 million dollars in assets, is president of Corporate Services, Inc. of New York City. He is a member of Controllers Institute of America and New York Society of Security Analysts. He serves on three committees of the Controllers Institute having to do with federal taxation, social security and finance management. His articles are appearing once a month in TELEPHONY.

about .06 per cent per annum at the end of September as compared with a month previous. Until recently, new utility bond offerings confirmed this trend, but some stiffening in prices is evident lately.

For example, the Wall Street Journal's compilation of 11 recent utility bond offerings showed (on Oct. 11) the average market bids for these issues were somewhat above the original offering prices, indicating an average drop in yields of about .035 per cent per annum. Nevertheless, short of an abrupt "about-face" in federal government money policy, moderately higher money rates for long-term funds seem likely over the next few months. And such a change in federal policy seems ruled out, at least for the present, by the recently announced decision of the Federal Reserve officials.

So, at the risk of monotony, our views on long-term borrowings must mirror those expressed for the past several months, i. e., that corporations will probably make no mistake in selling promptly any bonds, preferred stock or other long-term securities whose proceeds will be needed within a year or so. The higher rate obtainable on temporary investment of excess funds in treasury bills will eliminate the greater part of the penalty from selling securities before the funds are required. As usual, these views were checked with a representative of a leading utility underwriting firm (in this case Stone & Webster Securities Corp.), and, (also as usual—to date) confirmed.

* * *

EQUITY MONEY RAISING: While the average for utility stocks has fallen somewhat in the recent market decline, most of them still sell at levels indicating that corporations would do well to proceed to raise any common stock money they are likely to need within a year or so. By commencing arrangements for such sale promptly, companies might even realize a benefit from whatever further rebound may occur from the prevailing lower levels. In this, too, our underwriting experts concur.

* * *

THOSE CODE REGULATIONS: The world is still waiting for the 1954 code regulations – like for the sunrise in the song. Some final regulations have been issued, but those affecting rapid tax depreciation and many other important new matters are still to come. But we hear it won't be long now. We also hear the final regulations will permit a composite tax rate (covering all kinds of property) for rapid depreciation where the "sum of the digits" method is used.

There had been some doubt about this before. Many utilities use a composite depreciation rate for tax purposes, and, also, the "sum of the digits" method is definitely most advantageous for them because of the long life expectancy of their properties. So this is good news for the telephone companies and other utilities.

* * *

ANOTHER SECTION HEARD FROM: This is an era of mergers and amalgamations. Section 381 of the 1954 Internal Revenue Code is important in these transactions. This is a new section which permits (subject to certain limitations) carry-overs of various tax items in cases of subsidiary liquidations, mergers and other tax-free transactions, generally. Among these items are (1) net operating loss carry-overs; (2) earnings and profits from which taxable dividends are paid; (3) capital loss carry-overs, and (4) methods of computing depreciation allowances.

Upon liquidation, a parent may avail itself of a subsidiary's net operating loss or capital loss carry-over. Or, if a company has a deficit in earnings for tax purposes, the deficit may be utilized to offset earnings accumulated after liquidation or merger, etc., thus possibly resulting in a portion of the dividends paid by the surviving company becoming non-taxable to its stockholders. Also, the surviving company may carry forward rapid tax depreciation methods used by liquidated subsidiaries or corporations absorbed in tax-free transactions.

THE Operator's Corner

By MAYME WORKMAN — TRAFFIC EDITOR

WE ARE LIVING in a progressive era and, as time marches on, telephone companies are right out in front in the march of progress. But with all of our marvelous inventions, and we would not discard a one of them, there are always some losses, too, as when an automatic dial takes over the work of a switchboard operator, particularly in a small community where the operator has been everything, including baby sitter, secretary, or any other functionary her subscribers might desire. There is a feeling of loss on the part of the customer when he no longer hears the familiar and friendly operator who has served him faithfully for many years.

An article in the *Milwaukee Journal* aptly expresses the feelings of the customers when they lost "Central" and she was replaced by "Electronic Ella's Dials." According to excerpts from this article: "Many country town telephone exchanges are now dial operated, but the older subscribers generally agree that 'Electronic Ella' is neither as accommodating nor as colorful as the 'central' of some years ago.

"Central was the nerve center of the community. She had her fingers on the pulse of the town and the surrounding community and was the best-informed person about the latest business deals, sicknesses and, especially, the love affairs.

"Many telephone offices a quarter of a century ago occupied a corner room on a second floor overlooking the intersection of the two principal streets of a small town. The office was like the control tower of a modern airport. From its windows Central could see everything from the schoolhouse to the cemetery on opposite ends of one street, and everything from the railroad depot to Jones' cow pasture on the opposite ends of the other.

"Because of her control tower location, she was asked to do favors for her subscribers. When the buzzer signaled, Central would answer with the usual, 'Number, Please.'

" 'Will you look out the window and see if you can locate that husband of mine loafing down there on the street?' an impatient wife might request.

"Central was glad to oblige. Unplugging her headset from the switchboard, the operator would go to the window, look out, then report to the irate wife: 'Yes, I see your husband, sitting on the loafer's bench in front of the general store.'

" 'Well, you tell him to buy a loaf of bread and come on home,' the wife might say. 'His dinner is getting cold.'

"Central would unplug her headset again and lean out the window, calling, 'John! John Smith!' until the delinquent husband answered. She relayed the message and John didn't talk back to her as he might have to his wife. Soon Central saw him going home with a loaf of bread under his arm.

"Often Central served as an unpaid office girl for doctors and businessmen of the little town. If someone called for the doctor and he was out of his office, the operator would send his call to a home where he was making a bedside visit.

"When a call to the general store failed to answer, Central would advise the caller that the owner had gone to the post office and would be back in the store in a few minutes.

"Occasionally she would serve as an alarm clock for a subscriber who might say, 'Central, will you call me at 5 in the morning? I've got to catch that early train, and I'm afraid I might not wake up in time.'

"The request made most often at the rural telephone office was, 'Give me the correct time.'

"Usually the operator answered the request courteously, but one day every member of one large family called for the time before school. Finally Central became disgusted and snapped, 'It's about time you folks got a clock.'

"Several days passed before another call came from the family. Then one of the youngsters proudly reported, 'Central, we got us a new clock.'

"The most skilled operator from the city could not successfully run a rural switchboard, for Central knew the voice of each member of every subscriber's family and even the voices of a few who did not have telephones of their own.

"No one bothered to call by number. The usual requests were: 'Ring Mary.' 'Call John.' 'Ring grandma.'

"Central was at her best in emergency calls. 'Henry has been badly hurt!' an excited woman might report, hanging up the receiver before Central could get any further details; but that was all Central needed. She recognized the familiar voice, called the neighbors and advised them to hurry to the house, then telephoned the family doctor.

"Many a rural telephone operator deserved a medal for service beyond the call of duty. In case of a fire in the near-by business houses, Central would call the men of the town and report, 'The general store is on fire—bring your water bucket and ladder.'

"In past days the telephone played an even more important part in rural life than it does now, especially in the winter when roads were drifted. If the stork was due at a farm home, the prospective father would walk along the telephone line, making repairs where a blizzard had broken the wires. He wanted to be sure the telephone would bring help when it was needed.

"The dial systems give rural people much better service than the old exchanges did—and Electronic Ella never goes to sleep—but many of the older subscribers miss the friendly services of the familiar Central. And, most of all, they miss the interesting conversations they used to hear over the old party line."

An interesting résumé of bygone

(Please turn to page 45)

Subscribers react enthusiastically to Automatic's new Type 80 Monophone.

It's "*Orchids*" to YOU!

When you install Type 80 Monophones, you can expect some mighty nice compliments. Many telephone men are hearing heart-warming comments like:

- "It's such a smart, *modern-looking* telephone. Why, it really 'does something' for the room it's in."
- "I've never heard a telephone that sounded so clear. And we're out on a farm where we get a lot of hum and static."
- "When that telephone rings we always hear it—even out in the yard. Yet, its ring is pleasant and not too loud when you're indoors."
- "I think this telephone is easier to dial. Seems like those arrowheads pointing to the numbers help a lot."
- "I was glad to see the new telephone is so easy to lift and carry. That bigger grip makes it easier to lift."

Later on, your subscribers will also appreciate Type 80's remarkable freedom from trouble—and you'll approve its low maintenance cost. Automatic's experienced design, manufacture, and quality control insure unparalleled dependability. Order Type 80's today. Address: *Automatic Electric Sales Corporation, 1033 W. Van Buren, Chicago 7. Or call HAymarket 1-4300.*

AUTOMATIC ELECTRIC

ORIGINATORS OF THE AUTOMATIC DIAL TELEPHONE

Type 80 Monophone—the Telephone you designed

From a
grateful
subscriber

Don K. Carlson, newly-elected president of the Michigan Independent Telephone Association, receives gavel from Retiring President R. J. Schafer at recent convention.

Michigan Independents Hear Progress Report for Last Five Years

By R. C. RENO

THE SPIRIT which prevailed at the convention of the Michigan Independent Telephone Association indicates very definitely that Michigan Independent telephone companies have a broadened conception of the vital part they play in the nationwide telephone system; an increasing determination to meet the public's demand for service in their territories, and sincerity of purpose in meeting the problems of raising new capital from *private* sources.

The convention was held on Sept. 8 and 9 in Grand Rapids.

The officers and directors of the Michigan association deserve commendation for the increased activities along the above mentioned lines and in "spark-plugging" the association, itself, to extend aid and assistance to the smaller companies of the state. During the past three years the association's affairs have been directed by R. J. Schafer of Pinconning as president; Don K. Carlson of Morenci as first vice president; P. E. Taylor of Pickford as second vice president; T. A. Saunders as treasurer, and F. B. Twigg of Lansing as secretary.

The convention passed a resolution thanking and praising President Schafer for his long and outstanding service to the association as president.

The incoming officers, who have pledged themselves to continue the association's aggressive small company assistance program, are:

President: Mr. Carlson, manager of the Morenci Telephone Co., and a registered professional electrical engineer. He has served as chairman of the association's Public Relations and Advertising Committee.

First vice president: L. W. Reynolds, president of the Ontonagon County Telephone Co., and a veteran Independent leader in Michigan. He previously served the association as president.

Second vice president: C. Reginald Smith, vice president of the Port Hope Telephone Co. For many years, Mr. Smith was controller of the Albion (Mich.) Steel Products Co., and was chairman of the convention committee for the Rotary International Jubilee Convention in Chicago last Spring.

Treasurer: Mr. Saunders, president of the Union Telephone Co., who has made many contributions to the advancement of the Michigan association.

Secretary: Mr. Twigg, who, as the executive officer of the association, has efficiently guided its activities during the past several years.

Directors of the association, in addition to Messrs. Carlson, Reynolds, Smith, Schafer, Saunders and Taylor are: L. H. Meyer of Muskegon; John Collver of Climax; L. L. Cook of Bloomingdale; John R. Fox of Waldron; K. B. Sage of Central Lake, and John Sattler of Cedar.

The attendance at this year's Michigan convention was 379, the largest in the association's history. The meeting was presided over by President Schafer.

The president in his annual report reviewed the progress made by smaller Independent companies in rehabilitating and expanding their plants and stated that many of the companies had used the "Three R's" which he has recommended as a guide for success in managing a telephone company. The "Three R's" are: (1) Responsibilities; (2) records, and (3) rates. He commented on these points as follows:

"The first 'R'—Responsibilities—are manifested in the certificates of convenience and necessity, under which telephone companies operate.

"The first responsibility, under these conditions, is to provide your community with the best service possible, to the greatest number in your territory, at the lowest possible cost.

"We cannot shun this responsibility for long, because of the reaction of disrespect, and loss of standing in the community. When that happens, the whole job is much harder. The only way to avoid such an unfortunate result is to accept your responsibilities in full measure and carry them out with sincerity and interest.

"The second 'R'—Records—are just as fundamental as the first 'R.' In fact, I would say it was impossible to discharge your responsibilities without maintaining adequate records.

"Most people are not 'record-minded.' They figure that time doing a job is much more important than time spent keeping records. Yet, every telephone company owner or manager should know, firsthand, how the company is

Officers and directors of the Michigan Independent Telephone Association. Left to right: John Collver of Climax; L. W. Reynolds of Ontonagon, first vice president; John R. Fox of Waldron; L. L. Cook of Bloomingdale; R. J. Schafer of Pinconning; L. H. Meyer of Muskegon; Don K. Carlson of Morenci, president; T. A. Saunders of Owosso, treasurer; K. B. Sage of Central Lake; C. Reginald Smith of Port Hope, second vice president, and John Sattler of Cedar. Absent when photo was taken are Secretary F. B. Twigg and P. E. Taylor of Pickford.

operating—is the company doing all right? Is the business profitable? There can be no such thing as a successful operation without records which reflect the actual conditions of a company. There is nothing about records that cannot be understood.

"Now we come to the third 'R'—Rates. Records are the bases for establishing rates.

"Everything done or used is entitled to compensation. Work done by anyone must be compensated for and that compensation must be accounted for on the books. How can you know what you need in the way of rates, if you don't know what your operations are costing, measured against your income? There can be no question about getting increased rates where records establish need for them."

Stating that as a result of close cooperation of officers and directors, the Michigan association, during the past six years, has shown the greatest growth and progress in aiding member companies over any like period in its history, Secretary Twigg, in his annual report, presented statistics on certain phases of the industry for 1949 and 1955. He reported:

In 1949, there were 156 Independents in Michigan. Today, there are 132 as a result of consolidations, which mean better service.

In 1949, 156 companies served about 160,000 stations. Today 132 companies serve 250,000 stations.

In 1949, the total plant used by 156 Independents was valued at about 29 million dollars, while the value of plant in operation in 1955 is estimated to be close to 55 million dollars for the 132 companies.

In 1949, the total amount borrowed by Independent companies for plant expansion and improvement was about 1.5 million dollars, whereas borrowing from 1949 through 1955 has averaged nearly twice that much per year.

In 1949, there were only six automatic exchanges, exclusive of those operated by the Union Telephone Co. or General Telephone Co. of Michigan—compared to 36 such exchanges in 1955, with 30 more in some stage of preparation for conversion.

Secretary Twigg also reported that during the last twelve months alone among Independent companies, exclusive of General Telephone Co. of Michigan and Union Telephone Co., there were—

Thirty increases in rates, totaling $187,648 in annual revenue.

Sixty-five filings of new and up-to-date tariffs.

Sixteen company reorganizations.

Six loans completed, totaling $1,396,000.

F. B. Twigg, secretary of the Michigan association.

Thirteen other loans prepared, totaling $2,384,000.

Ten increases in stock sale authorizations, totaling $545,000.

Adoption of uniform systems of accounts by seven companies.

Fifteen agreements completed for the sale and purchase of companies.

Twelve cases of territorial boundary changes.

Conversion of six exchanges to automatic operation.

The association's secretary participated in each of the above listed activities.

Joseph L. Leopold, attorney of Dallas, Tex., addressed the convention on "Our Income Tax-Free Competition." He told of the thousands of tax-free organizations operating in the United States, such as building-loan groups, cooperatives, mutual companies, etc., and urged his listeners to support the movement to make such organizations tax-paying businesses.

"The only real solution to the problem, as I see it, is a steady expansion by the smaller companies and the consolidation or merger of those companies which are clearly too small to command adequate financial respect, and without necessary purchasing power to make it economical to convert their exchanges to automatic operation," W. E. Elmer, member of the Michigan Public Service Commission, said in connection with service complaints registered against some small Michigan companies.

He recognized "the good job" the Michigan association has done in effecting mergers of small companies and urged that this effort be expanded.

In the matter of securing financing,

(Please turn to page 40)

THE Plant Man's Notebook

BY RAY BLAIN, TECHNICAL EDITOR

THAT THE United States Independent Telephone Association convention held in Chicago this year was colorful, no one can deny. Telephones in bright colors sparkled in all of their glory.

The outdoor type booth in dazzling designs also shared the spotlight. This type of booth is presently being sold in large numbers and it is quite apparent that years will be necessary in order to meet all requirements.

A telephone booth mast, equipped with a breaker box, time switch, flood light and meter socket was demonstrated on the parking lot in the rear of the Conrad-Hilton Hotel. This mast provides an ideal and economical means of supporting telephone and power wires to the booth location.

The convention this year, as always, held many things of interest to the plant man. The many plant men we talked to were acquiring a wealth of information that would be used to advantage when they got back on the job.

Labor saving tools, materials and equipment were much in evidence. Power driven earth augers, truck-mounted aerial ladders and a duct rodding machine were also on display in the parking lot adjacent to the hotel. These devices attracted considerable attention throughout the meeting. Independent telephone men now realize that these machines all prove to be a good investment.

Telephone wire and cable are being constantly improved in order that they will give longer trouble-free life. Plastic cable proved to be a most popular subject for plant men at this convention. Various new types of splice closures were on display and they all appeared to possess merit. Terminals, protectors and drop wire connectors are also now available for use on rural distribution cable. This type cable, from all reports, is doing an excellent job throughout the country.

Plant men indicated a special interest in carrier systems of all types on display. The pole-mounted subscriber carrier systems will undoubtedly do a good job for many of the Independent operating companies.

Donald H. Campbell, president of the Rochester (N. Y.) Telephone Corp., and retiring president of the USITA, predicted that by 1975 we would have a telephone in nearly every room of the average home, rural private line service, and routine transcontinental dialing. There is certainly no doubt that carrier systems will play a most important part in making this better telephone service possible. In general, plant men have no apprehensions concerning modern carrier systems doing a good job for them and they know, too, that their maintenance is no longer difficult.

Microwave systems also came in for their share of attention. There are many areas in the Independent field in which this equipment may be used profitably. There is every indication that, as our industry further decentralizes and factories are constructed in rural areas, this equipment will continue to solve many problems of Independent companies.

Not only were telephones in every color on display, but many were also equipped with special features. The hard-of-hearing type, the loud-speaking, or "no hands," type, and the key type all attracted their share of attention. We are advised that the key type is rapidly gaining in favor throughout the Independent field. This system can be used in many places of business where more than one line is required, but where the traffic does not justify the use of a PBX switchboard.

Several new types of cordless PBX switchboards and turrets were on display. The turrets are designed to provide operator service on small dial systems with a minimum of effort. With this modern equipment, a clerk may provide the necessary operator's assistance on a dial system without taking an appreciable amount of time from her regular clerical duties.

The telephone answering device was on display. This device is being well accepted everywhere and many are now in service throughout the Independent telephone field. It is quite apparent that many more will be placed in service during the next few years. Many of these devices will be used in small exchanges where operator secretarial telephone service is not available.

Two different types of automatic dialers were on display. With these devices, all frequently called numbers may be dialed by making a few minor adjustments, or by merely pushing a key. These devices are not new as they have been available in various forms for a number of years. The present devices, however, are considerably improved and perhaps they will be more generally accepted in the future than they have been in the past. Only time will tell.

This writer enjoyed and profited by the convention this year as always. We met many old friends and made a wealth of new ones. We talked to plant men from practically every state of the union and many foreign countries. These men all had good ideas to offer for the betterment of the telephone industry.

Not only are many new items of material, tools, and equipment available for use in our industry, but old ones are constantly being made better. Our manufacturers are to be commended for their continued effort to correct any defects that may be detected in their products. It is noted, too, that manufacturers are improving literature on their products. Not only are their instructions clearer and more understandable, but they make use of numerous pictures and sketches to help clarify their text. Our industry has

good reason to be proud of its many manufacturers.

When the convention was over, and the manufacturers had crated and hauled away their exhibits, we boarded an American Airlines DC-7 and just one hour and 53 minutes after leaving Chicago, we sat down at National Airport in Washington, D. C. It was a wonderful convention, a good fast flight, and the Blain dogs were certainly glad to see yours truly.

Plant Man's QUIZ

BY RAY BLAIN, TECHNICAL EDITOR

Q. Will it be possible to obtain a drop wire that will give service in an extremely wet, damp climate?

A. It is our opinion that several of the new types of drop wire will prove satisfactory for this purpose. Some of this wire has an insulation that is of a specially developed low-moisture-absorbing compound.

This insulation is said to be equivalent in moisture absorption and electrical stability to submarine cable insulation.

The jacket is tough weather-resistant and abrasive-resistant neoprene. It is also resistant to sunlight, ozone, and flame.

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Q. We have seen 6, 11 and 16-pair rural distribution cable, but why doesn't some one manufacture a 3 or 4-pair? We have many jobs in which a smaller cable might be used to advantage.

A. The sizes you mention are generally considered standard and normally used. It is possible, however, to have a smaller cable supplied on special order.

We seriously doubt though that in this day and age it would prove economical to install less than a 6-pair cable. The cost differential between a 3 and a 6-pair is slight and there is always the possibility that the extra pairs will be required tomorrow or next week at the latest.

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Q. Why isn't it possible to obtain color-coded exchange cable? This would save a lot of lost time testing in the smaller one-man exchanges.

A. There is every probability that color-coded exchange cable will be available in the very near future. Not only will it save testing time in the smaller exchanges, but it will save money and time in the larger exchanges by making possible the use of a one-man cable crew.

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Q. Will you please advise us as to what protection may be used on poles to prevent their damage from the pileated woodpeckers.

A. From various reports received, it appears that no wood pole is immune to damage by this bird. In one locality, untreated chestnut poles were the first victims of the woodpeckers. It was believed at that time that the birds bored into the poles in search of food, such as termites, black ants and woodworms.

This was disproved, however, as the woodpeckers continued their attacks after full-length creosoted yellow pine poles replaced the chestnut. It has been conclusively proved that insect life cannot exist in pressure-treated yellow pine poles.

One power company investigated the possibility that line wire vibration transmitted through the poles produced there the effect of termites and other insects that attracted the birds. This theory was exploded by the finding of severely damaged poles before the line wires had been strung.

The following attempts to protect poles have been tried and found lacking:

(1) Lashing damaged sections of old poles to the tops of new ones.

(2) When new poles are set, leaving the old damaged pole lashed to the new one.

(3) Tacking red flannel and vaned metal strips to the poles.

(4) Wrapping the poles from top to 8 feet from ground line with 19-gauge ½-inch mesh hardware cloth.

(5) Applying chemical repellents.

(6) Wrapping the entire pole with 15-pound black Feltex paper.

It is reported that the woodpeckers ignored the old poles and the damaged sections of old poles lashed to the new ones. They then attacked the new poles with a vengeance. The red flannel and metal flashers on new poles stopped the birds briefly, but they soon learned that these devices were harmless.

The damage to poles wrapped with hardware cloth was equally as severe as to the unwrapped poles. The birds simply tore large holes in the hardware cloth to get at the wood. Feltex paper and chemical repellents proved to be no protection whatsoever.

One power company waged a chemical war against the birds by spraying the poles with a 5 per cent solution of pentachlorophenol in a light petroleum solvent, and painted them with formaldehyde and with Nopek, a non-hardening material having a bituminous base and a highly medicated odor.

Experiments have been conducted in painting poles red, green, yellow, and white on the theory that there must be some color that the birds will not attack. It is, of course, a well known fact that most birds are sensitive to color. This experiment has produced stand-off results only thus far as the poles are not ignored by the birds long enough for the paint to dry.

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Q. Will it prove desirable for a telephone company to equip its extension ladders with safety shoes?

A. We are advised by qualified safety engineers that this is always a desirable practice.

One type shoe is a combination of cord, rubber and ridges in the surface. It is claimed that the rubber holds the ladder firmly on all dry surfaces. The cord combined with the rubber securely holds the ladder on all wet surfaces.

Then the straight ridges across the line of slippage acts as a squeegee to scrape off all foreign substances and grip the surface, so as to hold the ladder firmly in place at all times.

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Q. What is the solderless wire-wrap connection, and how is it made?

A. This type of connection is made with a special tool that wraps the wire tightly around rectangular terminals. Each quarter turn is locked under tension, providing a permanent mechanical and electrical bond.

It is claimed that these clean, high-pressure connections have a contact area greater than the cross section of the wire. These connections may also be easily removed when desired.

Courts and Commissions

Rules Against Tax on Out of City Toll Calls

The New York Public Service Commission ruled on Oct. 14 that collection of New York City's 3 per cent sales tax on telephone calls originating within the city but terminating elsewhere is illegal, but said it is without jurisdiction to determine the ownership of the almost $800,000 in sales tax collected by New York Telephone Co. for such calls since it introduced its Metropolitan Plan in May 1950. The company is not benefiting from the tax and does not claim ownership of the money; it is holding the funds pending disposition of the matter.

The commission ruled that New York Telephone Co. must initiate additional procedures to instruct subscribers how to obtain refunds of excess taxes paid, and as to the means of avoiding the imposition of such taxes in the future. It also ordered the company to "perfect and submit," within two years, "a mechanical device for recording calls originating in the City of New York and crossing into adjacent territory, together with an estimate of the costs of installing it."

The Oct. 14 ruling is on a complaint filed with the commission by Jacob Goodman & Company, Inc. of New York City, protesting the collection of the tax on such calls. That company had twice been before state courts for a ruling on the matter. In those actions, the Appellate Division dismissed the proceedings pending a determination by the commission "on the reasonableness, propriety, adequacy and sufficiency of the practices and services" involved.

Experts No Substitute for Commission Rate-Fixing

The Tennessee Supreme Court has handed down an interesting decision regarding the discretion of the state's (lower) chancery court in reversing commission rate orders based on findings inconsistent with testimony of experts or other evidence in the case record. The court held that the conclusion of an expert witness could not be substituted by the chancery court for the conclusion of the commission and that the former could not exercise rate-making power directly (TELEPHONY, Jan. 15, p. 30).

The case involved Southern Continental Telephone Co., Cookeville, which had asked for an increase of $166,235. There were three expert witnesses. Two witnesses appeared for the company favoring, respectively, increases of $183,000 and $166,235. The third was the commission's own expert, who concluded that an annual increase of $155,657 was justified.

But when the Tennessee commission's order was finally handed down it authorized an increase of only $50,000. On appeal, the case was remanded by the chancery court with directions to the commission to fix an amount in harmony with the conclusion of its own staff witness. The commission reopened the proceedings, but finally ordered increased revenue of only $90,584—estimated to produce a return of 5.11 per cent.

Upon further appeal to the state supreme court, the second commission order ($90,584) was found reasonable and the lower court was found to be in error. The higher court ruled that only the commission had the power to determine the weight to be given to evidence of witnesses and that this discretion must be free of interference by the court except to prevent arbitrary action. The lower court's decree substituting the opinion of a witness for that of the commission was held illegal. Rate-fixing, the supreme court ruled, is a legislative function not within the power of the courts to determine.

Ore. Commission Authorizes Stock Sale for Independent

The Oregon Public Utilities Commission authorized the Glendale Telephone Co., on Oct. 17 to issue and sell at not less than par value 300 shares of its $3.00 dividend per year cumulative preferred stock, par value $50.

The proceeds of $8,172.10 are to be used for the construction and purchase of new telephones, cable, aerial wire and a switchboard for the Azalea exchange, and $6,827.90 will be used to discharge debt obligations.

Missouri Anti-Strike Law Ruling Is Being Appealed

A U. S. Supreme Court ruling will be sought on Missouri's public utility anti-strike law (TELEPHONY, Oct. 1, p. 33).

Missouri's Supreme Court agreed on Oct. 10 to stand aside while an appeal from its recent ruling concerning liability for damages is carried to the highest court.

The Missouri ruling held that the state's agent was not liable for damage claims incurred during a period of state operation of the Kansas City Public Service Co. The court held that only the company, and not the state, could be held liable for damages under such conditions.

The Missouri public utility anti-strike law, known as the King-Thompson act, was enacted in 1947. It empowers the governor to seize and operate a utility when a work stoppage is imminent. The law provides for a $10,000 daily fine against a union supporting a strike against a utility seized by the state and a total fine of $1,000 against union officials supporting such a strike.

Plan Sideband Operation for Mobile Radio-Telephone

The Federal Communications Commission plans future consideration of single sideband operation in all of the mobile service and Alaskan and maritime fixed service now using radio-telephone on frequencies below 25,000 kilocycles, it was announced on Oct. 5. Among the radio stations that would be affected are those in the public safety, maritime mobile, aeronautical mobile, industrial, and remote pickup broadcast services.

At present, stations in these services use conventional double sideband operation, which requires a radio frequency channel more than twice as wide as the band of frequencies actually needed for communication.

Since only one sideband is necessary for communications, the elimination of the extra sideband offers a possible means for reducing the radio frequency bandwidth occupied by each station.

Additional channels might, thereby, be made available for new stations or to relieve congestion on existing channels.

Single sideband has been used for many years in the international radio-telephone service. Looking toward further use of this transmission method, the commission on Oct. 5 adopted a notice of proposed rule making proposing the use of single sideband transmission by all radio-telephone stations in the fixed service except Alaskan and maritime fixed, below 25,000 kc.

In the mobile service, and Alaskan and maritime fixed service, however, there are special problems involving equipment and operation. Consequently, the commission is not proposing to require single sideband operation in these services at this time. At a future date, however, (in about one year) the commission plans to give further consideration to requiring single sideband operation in the mobile service and the Alaskan and maritime fixed services.

In the meantime, it is expected that users, manufacturers and professional groups with expert knowledge in this field of radio communication will conduct tests, studies and analyses to provide a sound technical background for the future consideration of this matter. This announcement is being made at this time to enable all interested parties to prepare to offer constructive comments to help in enlarging the use of this improved transmission method, the FCC stated.

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By notice of proposed rule making, the FCC on Oct. 5 announced it looks toward amending Parts 6 and 9 of its rules governing public radio-communication and aviation services, respectively, to require the use of single sideband transmission in fixed radio-telephone service below 25,000 kc, except Alaskan and maritime fixed. Comments are invited by Dec. 30 to specific questions and matters proposed in the notice.

Kansas Commission OKs Increase in Rates

The Kansas Corporation Commission authorized a $1,330 annual rate increase on Oct. 13 to the Wilsey Mutual Telephone Association.

The new rates approved by the commission will vary from $1.25 to $2.25, depending upon the type of service received by the 223 customers.

The previous rate was $1.00 for all customers. The company had proposed a 50-cent flat increase, but this was revised to the varied rate by the commission.

REA-Financed Minn. Co-op Gains Dial Service Rates

The Federated Telephone Cooperative, Chokio, on Oct. 10 gained approval of a schedule of rates to apply on conversion of its Chokio, Correll, Holloway, Odessa and Danvers exchanges to automatic operation.

The Federated co-op was incorporated in March 1952 and obtained an REA loan contract in May 1954.

Extended area service was authorized between certain of its exchanges and those of Northwestern Bell Telephone Co. and the Pioneer Telephone Co. of Swift County, Benson.

Upon conversion to automatic, the co-op's total operating revenues will be $113,178, and net income, $25,603. This net will be a 2.78 per cent return on the estimated original cost of the new plant —$921,000.

The following are the rates effective when dial service is furnished at each of Federated's exchanges:

	Group A	Group B	Group C	Group D
Business:				
One-party	$8.25	$8.50	$8.75	$9.00
Two-party	7.00	7.25	7.50	7.75
Rural Multi-party	6.25	6.50	6.75	7.00
Residence:				
One-party	4.50	4.75	5.00	5.25
Two-party	4.00	4.25	4.50	4.75
Four-party	3.50	3.75	4.00	4.25
Rural Multi-party	4.00	4.25	4.50	4.75
Mileage charge for service beyond the local base rate area, each ⅛ mile or fraction thereof:				
One-party	.70	.70	.70	.70
Two-party, each subscriber	.40	.40	.40	.40
Four-party, each subscriber	.25	.25	.25	.25

Group analysis: "A"—0-750 stations—calling range; "B"—751-1,250 stations—calling range; "C"—1,251-2,000 stations — calling range; "D" — 2,001-2,750 stations—calling range.

The Federated co-op serves approximately 443 urban and 1,304 rural stations.

Pa. Supreme Court Orders Rate Case Reopened

The Pennsylvania Supreme Court on Sept. 26 reversed the State Superior Court and ordered the Pennsylvania Public Utility Commission to reconsider a rate boost the commission had granted the Commonwealth Telephone Co., Dallas (TELEPHONY, Nov. 6, 1954, p. 38).

The company serves some 22,000 customers.

The commission last year approved a rate increase averaging 39 per cent and the superior court upheld the ruling by a 4-to-3 vote. However, the Valley Planing Mill near Wilkes-Barre appealed to the supreme court.

The supreme court decision, written by Chief Justice Stern, emphasized the court did not approve or reject the rate increase. The court held, however, that "the evidence presented by the telephone company in the present record does not justify the finding of the commission."

Justice Musmanno dissented.

Telephone Company Cleared In Woman's Injury Charge

Rochester (N. Y.) Telephone Corp. was cleared of liability in the New York Supreme Court for partial deafness which a woman said she incurred from a loud noise in her ear while she was operating a business switchboard, it was reported on Oct. 7.

Miss Beatrix E. L. Poser, whose $25,000 negligence suit was dismissed by Justice Charles B. Brasser at the close of all her evidence, claimed that a bang in the receiver, as from a short circuit in the board, resulted in her losing most of the hearing in her left ear on Jan. 3, 1953.

In granting the non-suit on motion of the defendant telephone company's attorney, Justice Brasser held there was no evidence that there was anything wrong with the telephone equipment at the time of the alleged mishap.

FCC Tells AT&T to Start Work on SAGE in East

The Federal Communications Commission has requested American Telephone & Telegraph Co. to begin work in the East on the Air Force's SAGE continental air defense project, it was reported on Oct. 20.

SAGE stands for "semi-automatic ground environment." It's a multi-billion-dollar Air Force program to convert its present continental air defense system from "manual" to largely automatic operation. The thousands of SAGE communications circuits would link far-flung radar detection outposts with electronic computers. These would perform a major role in directing air defense operations in event of an attack.

The commission refused to grant construction permits for preliminary work on the project the week before, because it lacked sufficient information on the need for the project. Since then, Defense Secretary Wilson has assured the FCC his department will have a continuing need for the SAGE facilities.

Under the construction permits, AT&T may start work on additional cable and microwave radio facilities in

New York, Connecticut, New Jersey, Pennsylvania, Delaware and Maryland.

Private telephone companies will provide the additional circuits required by the Air Force from their own funds. These outlays are expected to total about 2.4 billion dollars and will ultimately be paid by the Air Force over a 10-year period through regular leasing arrangements with the companies. But this does not include the cost of building and manning radar stations in the Arctic and Canada, the costs of radar picket ships and "Texas Towers" or the costs of the giant computers which will be an essential ingredient of the new system.

The SAGE project came under fire in September from Comptroller General Joseph Campbell, who said the Air Force didn't have proper authority from Congress to enter into the contracts, and from House Majority Leader McCormack (D., Mass.), who charged American Telephone & Telegraph "is the recipient of the most favorable contracts" in the deals carried out by the Air Force.

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The FCC also suspended until Feb. 1, new commercial telephone and telegraph rates sought by AT&T and called for a hearing Nov. 21 on the lawfulness of the proposed rates.

Western Union Telegraph Co. during the week of Oct. 10 protested the proposed rates on the grounds they were discriminatory and would draw away its customers to AT&T. The proposed rates give AT&T customers special discounts on additional communications facilities when they use at least three AT&T channels.

The Air Force will lease an estimated 25,000 communications circuits from AT&T when the SAGE project is completed. The FCC decision in the rate question could have an important bearing on the amount the government will pay for the communication lines. At present, the Air Force is scheduled to pay up to 240 million dollars for a year over a 10-year period for SAGE communications services.

N. Y. Commission Scheduled To Hear Two Cases

The New York Public Service Commission was scheduled to hear on Oct. 27 the petition of the Seneca-Gorham Telephone Corp., Holcomb, for permission to change the par value of its stock and to issue additional shares.

The commission was to hear, on Oct. 28, the petition of Sheldon A. Birdsall, doing business as Margaretville Telephone Exchange, for authority to transfer the system to the Margaretville Telephone Co., Inc., and for the latter to issue 1,300 shares of no par common stock with a stated value of $130,000 in exchange for the company.

Missouri Telephone Association's district meeting at Cameron in September drew the large group of company representatives shown.

General of the SW Gains Rate Increases in Texas

General Telephone Co. of the Southwest, San Angelo, Tex., was granted the following rate increases in Texas during the month of September:

	Old	*New*
Charlotte, dial, 210 stations		
One-party business	$7.00	$9.00
Two-party business	5.50	7.50
One-party residence	4.25	4.75
Two-party residence	3.50	4.00
Four-party residence	3.00	3.50
Dickinson, dial, 1,243 stations		
One-party business	9.00	11.00
Two-party business	7.50	9.50
One-party residence	4.75	6.00
Two-party residence	4.00	5.00
Four-party residence	3.25	4.25
League City, dial, 774 stations		
One-party business	9.00	11.00
Two-party business	7.50	9.50
One-party residence	4.75	6.00
Two-party residence	4.00	5.00
Four-party residence	3.25	4.25
Sedan, dial, 273 stations		
One-party business	6.50	8.00
Two-party business	5.00	6.00
One-party residence	3.75	4.50
Two-party residence	3.00	3.75

Illinois Company Requests Increase in Rates

The Alpha Telephone Co., Blue Mound, has filed a petition for rate increases the Illinois Commerce Commission announced on Oct. 4.

The increases, which would affect about 465 customers, would mean a revenue increase of $4,450 yearly for the company, according to the commission. Increases sought include:

One-party business, $4.00 to $5.75.
One-party residence, $2.50 to $3.50.
Four-party residence, $2.10 to $2.55.

Rural multi-party business rates would go from $2.50 to $3.50, and multi-party residence rates would go from $2.10 to $2.55.

Date for the hearing on the petition has not been set by the commission.

The Alpha company asks that the new rates go in effect Nov. 1.

Authorize Purchases by Two Minnesota Companies

Purchases by two Independents have been approved by the Minnesota Railroad & Warehouse Commission.

Glenn H. Greaves and S. Thomas Sager, trustees of the estate of Eva G. Greaves, and associates, on Oct. 10 were authorized to sell to the Pioneer Telephone Co. all outstanding stock in the McLeod County Telephone Co., Glencoe (serving approximately 2,381 urban and 1,527 rural stations).

Fillmore County Telephone Cooperative, Houston, on Oct. 7 secured authority to buy Brownsville Consolidated Telephone Co. (120 stations); Dakota Mutual Telephone Co. (119 stations), and Richmond Telephone Co. (21 stations).

Two Missouri Companies Ask Permission to Borrow

The La Plata Telephone Co. on Oct. 14 applied to the Missouri Public Service Commission for authority to issue mortgage notes in the sum of $150,000 to General Dynamics Corp., Stromberg-Carlson Division.

The Cassville Rural Telephone Co. on the same date requested authority to borrow $200,000 from the same lender.

Ohio Company Asks Increase

The North Eaton Telephone Co. recently asked for a rate increase covering its subscribers in Lorain County.

Kansas Commission Scheduled To Hear Four Cases

Mayetta Telephone Co. has asked the Kansas Corporation Commission for a $1,350 increase in rates, it was reported on Oct. 12.

The commission set Oct. 31 for the hearing.

Two other telephone companies were also to be heard on Oct. 31:

Wilson Telephone Co., Inc., has asked authority to discontinue free toll service between Sylvan Grove and Vesper.

Farmers Mutual Telephone Co., South Haven, has requested a temporary rate raise of $2,688.50 until transfer of company property to Harper County Telephone Co. takes place. The South Haven company recently was sold to the cooperative.

The commission was also scheduled to hear on Nov. 1 the application of the Craw-Kan Telephone Cooperative, Inc., Girard, to buy the Weir City Telephone Co. To do this, the cooperative proposes to borrow $65,000 from the REA, raise $14,722 locally, and convert the company to dial operation.

The Weir company now has 242 customers. After conversion, it would expand its service to 451 customers.

Commission OKs Raised Rates For New York Independent

The New York Public Service Commission on Oct. 11 announced it has accepted a tariff amendment filed by Dalton Telephone Co. to increase rates to all subscribers by an estimated $1,500 annually, effective Nov. 1. The company serves about 220 stations in the villages of Dalton, Swain and Hunt through a magneto switchboard in Dalton.

In filing its new tariff, the company reported an operating loss for 1954, and said additional revenues were needed not only to overcome such losses in the future but also to meet recent wage increases. At present, the company charges $2.50 for both residence and business service. Under its new tariff, the residence rate will be $3.00 and the business rate will be $4.00.

SW Bell Secures Part of Requested Rate Increase

The La Porte Tex., city commission on Sept. 30 awarded Southwestern Bell Telephone Co. only a portion of the rate increase it had requested for its La Porte office.

Only on four-party lines did the company get the full amount it requested —from $2.75 to $3.25.

Business rates were increased from $7.50 to $8.50, one-party residence, from $4.25 to $4.75, and two-party from $3.50 to $3.75.

The company had requested a $9.00 rate for one-party business; $5.00 for one-party residence, and $4.00 for two-party residence service.

Rate Increase Recommended For Ohio Company

Following a hearing on Sept. 30, rate increases amounting to $2,500 annually were recommended for the Clarksfield Telephone Co. by E. J. Nolan, chief attorney-examiner of the Ohio Public Utilities Commission.

The new rates would produce a 2.1 per cent return on its investment, the company stated.

It was reported that the company would hire additional operators at a cost of $2,016.

N. J. Commission Reserves Decision on Bond Issue

The New Jersey Public Utilities Commission reserved decision on Sept. 29 on an application of the United Telephone Co. of New Jersey, Newton, to sell $500,000 principal amount of first mortgage 3¾ per cent bonds, and to issue 20,000 shares of common stock having a par value of $10 a share.

It was testified that the company will use the $200,000 realized from the stock sale to repay its parent company for advances it received for construction purposes.

The company said $350,000 of the bond issue will be used to refund existing short-term bank notes, the proceeds of which were used for the construction of its telephone plant.

The balance will be applied for additions made or to be made to its plant as provided for in its 1955 construction budget.

Minnesota Commission OKs Sale of Two Independents

The Minnesota Railroad & Warehouse Commission authorized sale of the Ghent Cooperative Telephone Co. to H. C. Hamilton on Oct. 17.

The Wikstrom Telphone Co., Inc., on the same date was authorized to take over the Wikstrom Telephone Exchange and operate it.

Rate Increase in Wis.

The Wisconsin Public Service Commission was scheduled to hear on Oct. 20 the application of the Hammond Telephone Co. for authority to increase rates.

Uphold Employe Discharge After Southern Bell Strike

The discharge of one employe accused of misconduct during the 72-day Southern Bell Telephone & Telegraph Co. strike was upheld recently by arbitration, while a second worker was ordered reinstated in his job.

Arbitrator Whitley P. McCoy of Washington, D. C., found that misconduct occurred in both cases, but that in one it was not of such a nature as to warrant dismissal from the company.

Mr. McCoy ruled that Robert H. Hays of Bessemer, Ala., an installer for Southern Bell, was guilty of throwing rocks at the home of a non-striking employe in Fairfield, Ala., and of taking part in a gathering at the home which was held "for the sole purpose of intimidation. . . ."

Hays' dismissal was upheld.

H. L. Murphy, an installer-repairman from Dadeville, Ala., was given a one-week suspension but ordered reinstated with back pay for his part in an incident involving the use of "vulgar and obscene" language toward non-striking telephone operators.

Mr. McCoy found that while "working employes are entitled to protection against insult and humiliation," Murphy's part in the incident did not call for discharge.

A team of three arbitrators is considering the dismissal of 237 Southern Bell workers. The two cases now announced bring the total number of decisions made, so far, to eight. In four of these, the dismissals were upheld.

Texas Independent Places $300,000 Bond Issue

Conroe (Tex.) Telephone Co. has placed $300,000 of first mortgage bonds due 1980 with Berkshire Life Insurance Co., Pittsfield, Mass.

Purpose of the loan is for refunding notes payable incurred in connection with conversion to automatic.

This is Berkshire's 39th piece of Independent telephone financing.

Missouri Independent Will Purchase Another Company

The Marion Rural Telephone Co. met on Oct. 10, and signed papers for the purchase of the Philadelphia (Mo.) Telephone Co., according to an announcement on Oct. 11 by E. A. Turnbull, president.

Operation of the exchange will remain at the present location until Dec. 15, 1955, and will continue in operation until the new system is erected, Mr. Turnbull said.

Tennessee Association Convention Draws 250

The Tennessee Telephone Association's 21st annual convention was held on Sept. 29 and 30 in Nashville with Kelly McNish of Bristol, presiding. A total of 250 attended.

Following an invocation and an address of welcome by the mayor of Nashville, Leon F. Roberts, director of information, United States Independent Telephone Association, spoke on "What Our Telephone Associations Mean to the Industry."

Mr. Roberts gave his conception of a trade association and then listed many activities of the USITA. He said the USITA through its Toll Compensation and Settlements Committee and Sub-Committees, supervises toll studies and carries on negotiations with the Bell System, looking toward increased compensation for Independent companies, when it is determined that such increases appear to be justified.

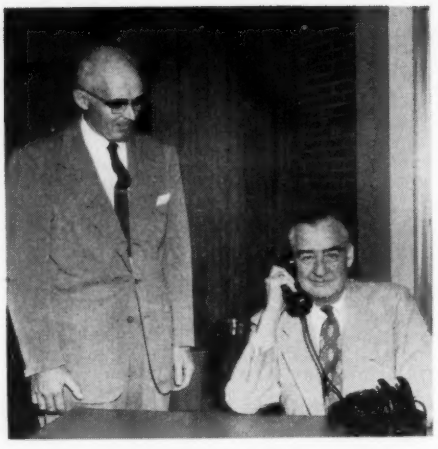
Other activities Mr. Roberts mentioned, included: Serving as a first line of defense on the legislative front; conducting studies and research into various phases of telephone operation; issuing Member Letters containing current information on developments affecting the industry; gathering statistics on the operation of Independents and publishing these; conducting a national advertising campaign, and holding national conventions.

Mr. Roberts dealt with what the industry can expect legislative-wise. He also went into more detail about the national advertising campaign and the new Independent emblem.

Mr. Roberts said he thinks "it is generally recognized that the telephone has become an important and a necessary factor in promoting the social, economic, and political integration of the nation." He concluded, "Everything I read and observe leads me to believe that in every way our prospects are bright indeed. . . ."

Other speakers at the first session were H. J. Kleinhammer (Inter-Mountain Telephone Co.) on "2-5 Numbering Plan"; J. F. Richmond (Twin Lakes Telephone Cooperative Corp.) on "Applications of Carrier Systems"; Arthur F. Boyd (General Telephone Co. of Kentucky) on "Merchandising, Our Biggest Job," and H. N. Stafford (REA section engineer, telephone division) on "The Application of Rural Distribution Cable in Telephone Systems."

The second session was comprised of an electrical protection and safety demonstration by D. T. Rosselle of Atlanta, Ga., supervisor, Southern Bell Telephone & Telegraph Co. Mr. Rosselle was assisted by L. W. Johnson of Nashville, Southern Bell division maintenance supervisor.



Following General Telephone Co. of Kentucky's cut-over of its Ashland exchange from common battery manual to automatic operation (cost: $3,354,016), Ben Williamson Jr., a General of Kentucky director, makes the first toll call while Marston V. Shepherd, Ashland district manager, watches. This was the first General of Kentucky exchange cut over on the inter-toll dialing network. The initial installation included 7,500 lines, 11,200 terminals and a 26-position toll switchboard.

The association elected the following directors: W. S. Howard of Millington; Kelley McNish of Bristol; G. A. Klein of Cookeville; T. D. Odle of Parsons; W. C. Thomas of Nashville; Ralph E. Thorne of Bruceton; H. W. Vaughan of Chickamauga, Ga.; R. Lee Wheat of Chapel Hill; J. F. Richmond of Gainesboro; H. R. McDonald Jr. of Fountajn City, and W. S. Slusher of McMinnville.

The directors elected the following officers: President, Ralph E. Thorne; first vice president, G. A. Klein; second vice president, H. R. McDonald Jr., and third vice president, R. Lee Wheat.

Retired AT&T Engineer Given Highest Award for Standards

Harold S. Osborne, Montclair, N. J., retired chief engineer, American Telephone & Telegraph Co., has been named for the nation's highest award in the field of standards.

He will receive the 1955 Howard Coonley Medal for "service in advancing the national economy through voluntary standards."

The medal will be presented at the Sixth National Conference on Standards to be held in Washington, D. C., Oct. 24, 25 and 26. The conference will be sponsored jointly by the American Standards Association and the National Bureau of Standards.

Nebraska Association Plans Management Seminar

The Nebraska Telephone Association reports it has met a number of times with representatives of the extension division and business administration department of the University of Nebraska and it now appears that a management seminar can be presented.

The Nebraska association contemplates a 2½-day program during the winter months using the university facilities in Lincoln.

Five areas of management would be explored by owners and managers of Independents. The five:

Business management policy.
Finance, accounting and controlling methods.
Communications (art of expressing oneself through correspondence, reports, and orally for such purposes as conveying instructions, presenting cases at hearings, participating in public meetings, and helping in day-to-day contacts).
Human relations.
Public utility and general economics.

Iowa Association Sponsors Dial Conversion School

Iowa Independent Telephone Association on Oct. 17 sounded its last call for applications to attend its dial conversion school, to be held Dec. 5 through 9. The school is sponsored by the association's plant committee and the engineering extension department of Iowa State College, Ames.

Subjects to be covered include:

Preliminary engineering; central office equipment; outside plant; plant records; plant property taxes; plant accounting; publicity and subscriber education; number assignments; directory, and employe training, all to be followed by an examination, critique and graduation.

In addition to the above daytime studies, a two-hour seminar each evening of the first four days, is scheduled.

The instructor staff is composed of the following:

Gene Daubendiek of Jefferson; John Ferguson and C. E. Furrow, both of Des Moines; A. C. Kelley and A. L. Kelley, both of Clarinda; Arthur Kiesling of Madison, Wis.; Fil Melick of West Liberty; Arthur Sanders of New London, and Ross Vernon of Sioux Center.

To Manage N. C. Company

Thatcher Carr of Thornton, Ind., formerly with the Indiana Bell Telephone Co., has been named manager of the Lower Cape Fear Telephone Corp., with headquarters at Elizabethtown, N. C. He has been in the telephone business since 1930.

The new TELETYPE 28 Printer offers these outstanding features...

1. **FEATHERWEIGHT CARRIAGE** . . . quick, dependable carriage return even at 100 wpm—needs no extra line signal.

2. **TYPEBOX PRINTING** . . . instantly removable Typebox for changing type or cleaning.

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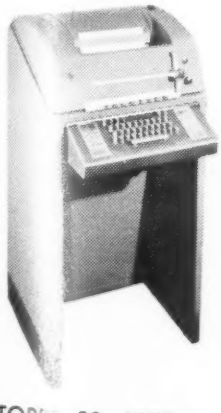

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MICHIGAN INDEPENDENTS

Concluded from page 31

the commissioner commented that one of the reasons why many of the smaller Independents cannot secure new capital is poor management and inadequate accounting records. He warned that, in order to get new money with which to rehabilitate plants and expand service, and also to secure increased service rates, many companies must provide better management and install and maintain good bookkeeping systems.

He emphatically stated that the commission is concerned over the inability or reluctance of some companies to render adequate service, and with complaints being registered with the commission, it is the responsibility of the commission to see that this condition is eliminated.

"It all adds up to the fact that not everybody is completely happy with the operations of Independent companies. I have no fear but that the passage of time will cure most of the ills and, as I have pointed out, we are progressing at an encouraging pace. However, as some of the companies modernize, while their neighbors stand still, the difficulties of the backward neighbors become even more apparent and it is up to all of you, the commission and its staff, the association and individual members to see that even the most laggard does not stay too far behind, Commissioner Elmer stated in closing.

A new slant in the merchandising of telephone service was given by L. G. Conroy, general commercial manager of the Michigan Bell Telephone Co., in an address on that subject.

He stated that many people think of merchandising and selling as being one and the same thing. However, he said that merchandising is not selling; in fact, it actually goes ahead of selling. Merchandising is a marketing strategy, he said, and, generally, it can be described as product research and development. He stated:

"To be more specific, merchandising is the coordinating of all those activities which result in getting the right product—

"(1) At the right price.
"(2) In the right quantity.
"(3) At the right time.
"(4) In the right place."
"(5) In the right light."

In short, Mr. Conroy described merchandising as the force which creates the proper climate for selling, keeps selling costs from being prohibitive, promotes strategy which changes customers' attitudes from needing things to wanting things.

In closing, Mr. Conroy said that the telephone industry must compete for its share of the customers' dollars if it is to survive and prosper.

"Telephone companies must keep whole and healthy. A good merchandising program and a good sales program, built upon a good rate structure, will give us the necessary 'elbow room' ", he concluded.

In an address on "Subscriber Toll Dialing," Weldon W. Case, vice president of the Western Reserve Telephone Co. of Hudson, O., described the subscriber toll dialing and automatic toll ticketing equipment in operation in his company. He told of the advantages of this service, experienced by his company in handling short-haul toll traffic.

At present two of the Western Reserve's exchanges have subscriber toll dialing and it is planned to so equip nine remaining exchanges in the near future.

In closing his address, Mr. Case stated:

We, of the telephone industry, have during recent years found ourselves continually facing the problem of rising costs, and being a regulated industry we are not able to pass those costs on to the customer except at times when we receive rate increases. We have, over the years, constantly employed every available improvement, and as a result have been able to render to our customers continually improved telephone service at constantly reduced cost.

"The problems of compensation awarded Independent telephone companies in connection with the operation of long distance service has been one which has been under continued discussion over the last decade. In recent years, it has been pointed out that the so-called short-haul traffic has been non-compensatory.

"I believe that once more the industry has risen to the occasion and found a solution which not only reduces the cost of operation of toll service to the company, but delivers an added convenience to the customer. This will, in turn, enable our companies to remain financially strong and in a continued position to meet the demands of our growing population, and the resulting increased number of potential telephone users."

"A Publisher's View of the Trade" was the subject of an address by R. C. Reno, editor of TELEPHONY. He commented on certain problems facing Independent telephone companies in connection with securing adequate rates, improving and expanding service, bettering public relations and building good plants, etc.

He termed these immediate needs and stated that he felt many of them would be diminished in the future if attention were given to five basic needs of the Independent segment of the telephone business. Mr. Reno listed these basic needs as:

(1) Striving toward more aggressive, energetic and enlightened management in many small Independent companies.

(2) Attracting more young men into Independent companies — large and small.

(3) Working towards the establishment of straight telephone engineering and plant schools in colleges, technological institutes or trade schools, through which new and prospective employes, as well as present employes of telephone companies, can obtain instruction in telephony.

(4) Recreating the traditional "spirit of service" to the public which, in the early years of the industry, was built around the operators. With the gradual exodus of local operators, there has been a tendency for this service spirit to diminish. All employes in all departments of a telephone company must recapture the "spirit of service."

(5) Instituting a nationwide advertising program telling the story of the Independent industry—its vital place in the nation's telephone network and its important place in the economic life of the nation—as well as the problems confronting the industry.

New York Company Makes Offer to Stockholders

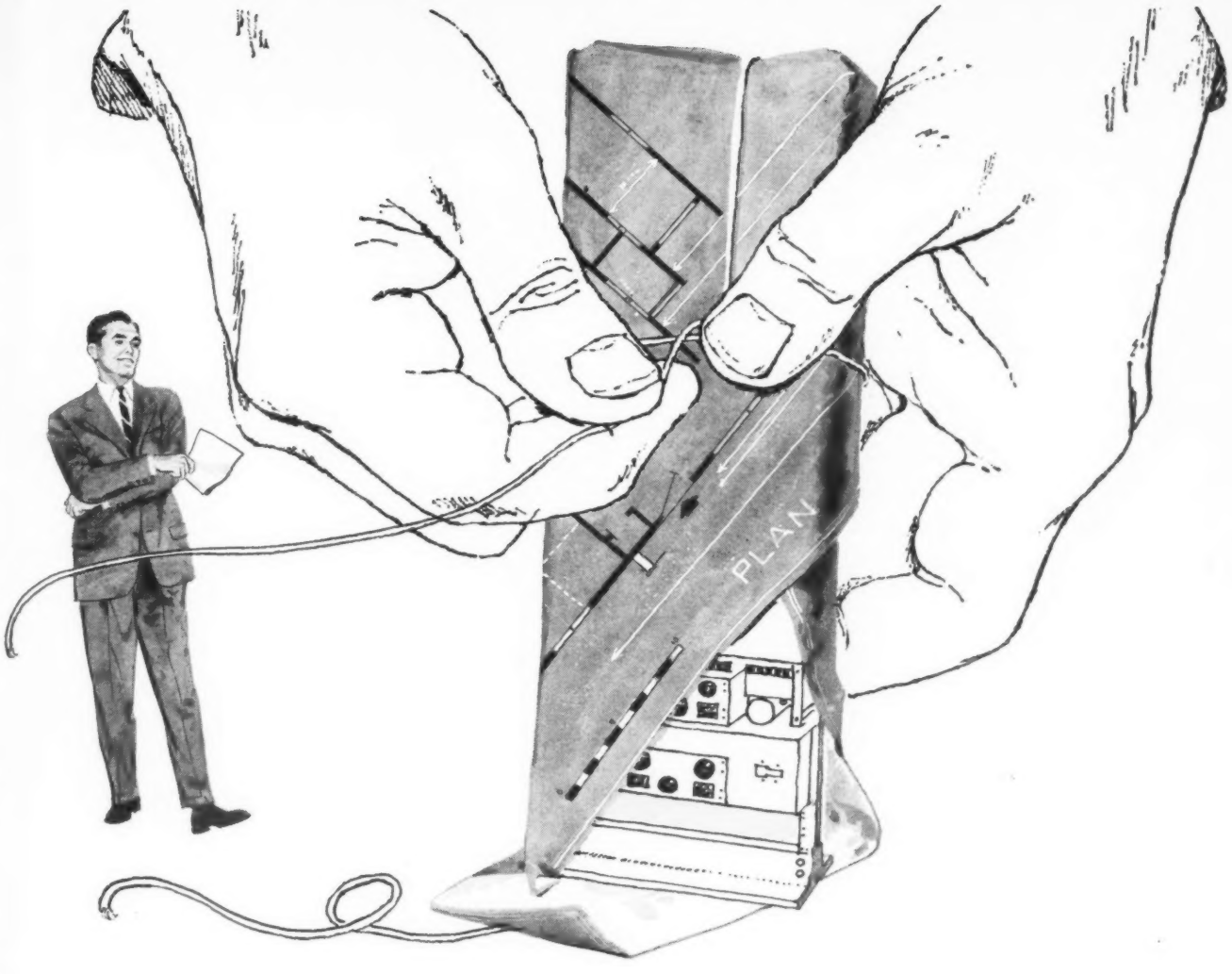
Holders of common stock of Rochester (N. Y.) Telephone Corp. are being issued warrants to subscribe at $18 per share for an aggregate of 195,312 additional shares of the company's common stock on the basis of one share for each four shares held of record Oct. 6 (TELEPHONY, Oct. 1, p. 33). The subscription offer, which is being underwritten by a group headed by The First Boston Corp., will expire at 3 p.m., E.D.S.T. on Oct. 24.

Proceeds from the sale of additional common will be applied to the payment of 3.2 million dollars in bank notes incurred previously to finance expansion of the company's telephone service and to continue its dial conversion progress. The company estimates that $8,385,000 will be required for these purposes in 1955 and approximately the same amount in 1956.

Ohio Independent Issues $1,000,000 in Bonds

Ohio Consolidated Telephone Co., Portsmouth, has borrowed 1 million dollars by issuing 3¾ per cent first mortgage bonds to an institutional investor.

The placement of the 25-year series E bonds at par and accrued interest was arranged by the Ohio Co. Ohio Consolidated will use the proceeds for extensions and improvements.



Now you can buy your long-distance and trunk circuits "BY THE PACKAGE"

Here's a new service—brought to you by two of the leading suppliers of communications equipment. Combining Lenkurt's "EF&I" (Engineer, Furnish, and Install) service with Automatic Electric "Follow-Thru Engineering", it makes it easy for you to have the carrier or microwave equipment you need, without overloading your engineering and installation staff. This new "package plan" is broad enough to handle complete projects, yet flexible enough to provide economically just the services you need.

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1. Specific recommendations. Experienced project engineers study your problems and draw up an economical, workable plan to meet present and future requirements. Then they make detailed equipment recommendations—*telling you why.*

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4. Office records. You are furnished, for record purposes, the engineering details showing how this system was incorporated into your plant. You will receive field surveys, floor plans, cable and power connecting charts—all the records you'll need for future use.

5. Staff training. You are provided detailed equipment bulletins and line-up and operating instructions for your personnel. Engineers assigned to your installation will train your men right on the job, giving them the basic information necessary to understand and service the equipment.

6. Follow-up counsel. Even after your system is in operation, this same helpful service continues. When assistance on rearrangements or expansion is needed—or any time you can profit from experienced counsel—this service is available to you.

For complete details on how this "package plan" service can help you to quickly and easily get the long-distance and trunk circuits you want, *write:* Automatic Electric Sales Corporation, 1033 West Van Buren Street (HAymarket 1-4300), Chicago 7, Illinois.

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Corrosive atmosphere—weather—extra strength—pliability. These are the special problems and needs you run into in wire maintenance. There

are 11 types of Neale spinning or lashing wire, each built to solve one or more of these problems for you.

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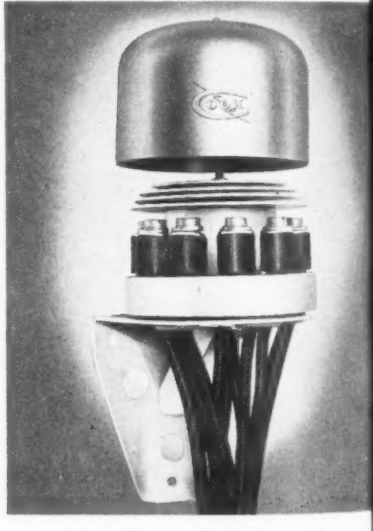
Have your Stromberg-Carlson man help you select the right type for your needs.

The new 5 circuit Hy-Cap Power Cross Protector

Whenever telephones are in joint occupancy with power lines, a heavy-duty protector should protect the telephone lines against destructive power cross.



Now—Protect 5 circuits against power crosses with one protector.

Such protection can now be had when the Cook Electric Company Hy-Cap 5 Pair Power Cross Protector is installed. This unit mounts on a type 10B cross-arm and will protect 10 lines. Connections are made with pre-cut No. 10 plastic insulated copper wires which terminate on rugged discharge carbons. There is just one ground wire for easier installation. The protector will break down at 3000 volts and will continue to ground the fault current as long as it exists.

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See your Stromberg-Carlson representative for further information.

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Old age, even high discharge rates, have little effect on this battery.

long life. Latest developments on molded glass jars permit compact space-saving installation.

Heavy terminal posts with copper inserts provide extra conductivity for sustained voltage at high discharge rates. Microporous rubber along with slotted plastic separators, are impervious to chemical and electrical reactions. Plastic spacers assure plate alignment.

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REPEATER AND CARRIER POWER SUPPLIES

Concluded from page 21

mercury-vapor arcs and other rectifiers. If selenium or other dry rectifiers were used in this circuit, the 6-volt transformer winding would not be needed, as its purpose is only to heat the filaments of the rectifier tubes. (Different tube types may require other voltages.)

Points

The following significant points about this type of power system should be noted in studying the circuit:

(a) The filament winding, while rated at 6 volts (or thereabouts), is also connected to one side of the output voltage, therefore, it may carry this full voltage if the minus side is grounded. Therefore, beware.

(b) While only 130 volts may be needed out of this kind of a supply, there is a voltage drop across the filters (to be described later) and also across the tube. Further, because only one-half of the transformer is used at a time, the voltage is twice as high as that used.

For instance, in *Fig. 1.1*, each side of the transformer is rated at 200 volts, which is 400 volts across the top and bottom terminals. It may be even of higher voltage than this. A power supply rated at 130 volts output may have voltages that are a lot higher underneath the cover. Again beware.

(c) The center tap on the filament winding is not always used. The negative wire may sometimes be found to connect to one side of the winding instead of the center.

(d) The output voltage will vary with the line voltage only more so. This is because the line voltage as well as any change in it is stepped up by the transformer.

(e) The output voltage is also affected by the internal resistance of the electron stream in the tube and the voltage drop across it. Therefore, as more power is drawn off of this supply, the greater will be the drop across the tubes, and the more the delivered voltage will fall. This can be offset by regulators.

(f) While two tubes are shown in the drawing, in small power supplies a single tube containing two plates and filaments is generally used.

(g) This system does not put out steady dc but rather dc with 120-cycle ripple. This can be removed by filters.

(h) Instead of the tube type shown, others can be used which have 110-volt filaments and need no 6-volt transformer winding. Further, single rectifiers, rather than double ones, can be used. These rectify only one-half of the ac wave and increase the filter problem. However, a half-wave rectifier can eliminate the use of a transformer completely, because with a one-plate tube, double voltage is no longer needed.

Bridge Rectifiers

Another method, often used with selenium or copper oxide rectifiers, is the bridge arrangement shown in *Fig. 1.2*. Here a center tapped transformer is not necessary and the voltage does not need to be so high.

The operation of this circuit might be expressed as follows:

If the rectifier conducts when the pointed side is positive, then when the top end of the transformer is positive, the current will travel through rectifier No. 1, out through the load, back through rectifier No. 4 to the negative side of the transformer.

When the ac reverses, and the bottom terminal of the transformer is positive, the current will then flow out through rectifier No. 2, through the load, and back through rectifier No. 3, to the top of the transformer which will then be the negative side.

In the above illustrations, the tube circuit was traced negative to positive, and the bridge rectifier was traced positive to negative.

This was done to illustrate both methods. In any electrical study course, confusion can exist on the subject of opposites.

An easy way to keep things straight when tracing circuits of this sort is to imagine that your pointer, pencil, or finger, is carrying one polarity with it, seeking out the opposite pole. Thus in *Fig. 1.2*, your pointer takes a positive charge with it as it starts out from the top of the transformer, seeking for the negative pole. After traveling over the circuit as described previously, your pointer, still positive, finds its goal, the negative at the bottom of the transformer coil.

(To Be Continued)

Honor Head of Bell Labs

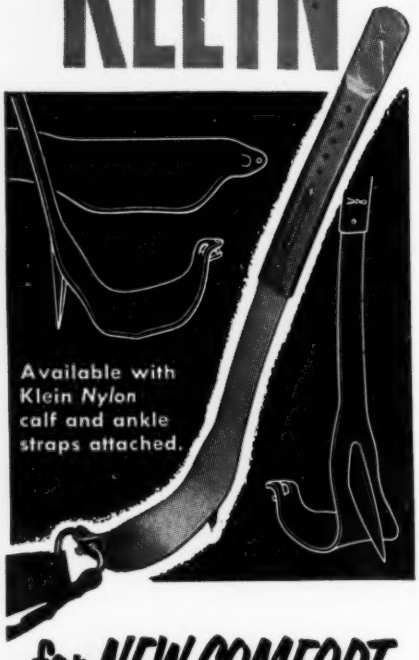
Mervin J. Kelly, president of the Bell Telephone Laboratories, and Sir Gordon Radley, director-general of the British Post Office, were awarded the international "Christopher Columbus" communications prize on Oct. 1 for their work on a transatlantic telephone project, it was reported from Genoa, Italy.

Room for All

"It is my own conviction that in our kind of economy there can never be any real conflict between the oil industry and the field of nuclear energy as sources of power. As long as we can foresee into the future, there will never be too much power, and industry will be able to use every source available." —LESLIE R. GROVES, *lieutenant general, U. S. Army (Ret.).*

Look to the Leader

KLEIN



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KG NO. 1 GAFF GAUGE
Keep this precision gauge handy for a safety check on proper spur shape. Plated steel—packed in durable plastic case.

1901-MG GAFF GUARDS
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INDEPENDENT PIONEERS

Continued from page 24

tario, Canada; Laverne Goddard of Jamesport, Mo.; Leonard Grenz of Amery, Wis.; Earl G. Haller of Gettysburg, Pa.; W. T. Henning of Sulphur, La.; Minnie B. Herron of Pawnee City, Neb.; Albert S. Hillhouse of Reynoldsburg, O.; Roland F. Hostetler of Lafayette, Ind.; Clarence O. Kastner of Kansas City, Mo.; Morris F. LaCroix of Brookline, Mass.; John C. Larkin of Syracuse, N. Y.

Anna A. Larson of Sutton, Neb.; Wilbur N. Locke of Columbus, O.; Harold F. Noble of Erie, Pa.; Clifford J. Palmer of Waterloo, Wis.; Rollin C. Parsons of Lincoln, Neb.; Charles E. Powell of Ephrata, Pa.; Everett H. Power of Bowling Green, O.; John F. Probst of Western Springs, Ill.; Rose Ann Riggs of Wilmington, Del.; Lloyd L. Roper of Kansas City, Mo.; Charles E. Smith of Morenci, Mich.; Dorothy A. Smith of Normal, Ill.

M. F. Snavely, Columbus, Neb.; Zeno N. Streeter of Columbia, Mo.; Clarence A. Swoyer of Columbus, O.; F. J. Tellman of Fort Wayne, Ind.; A. Terkel of San Francisco, Cal.; John W. Tranter of Warren, O.; Lyman Q. Trumbull of Los Angeles, Cal.; Earl A. Tull of Lapel, Ind.; Sadie F. Urch of Lincoln, Neb.; Frank W. Walter of Beatrice, Neb.; Irene Watts of Elkhart, Ind.

P. J. Weirich of Monroe, Wis.; Moiston Whaley of Albany, Mo.; Boyd L. Yarger of Bloomington, Ill.; Esther F. Young of Columbia, Pa., and Joseph L. Zieg of Campbellsville, Ky.

Winners of the Pioneer association's Hobby Show displays, on exhibit at the USITA convention, were announced by K. B. Schotte Jr. of Kittanning, Pa., chairman of the Hobby Awards Committee. The winners were:

Ladies' First Prize: Mrs. Workman —Hawaii mementos.

Men's First Prize: Burton W. Saunders of Springfield, Ill.—Ribbons and pictures of show dogs.

Ladies' Second Prize: Mrs. Effie M. Dean of White Salmon, Wash.—Branding irons.

Men's Second Prize: A. S. Watson of Oil City, Pa.—Photography.

The Pioneers elected the following directors: R. N. Cole of Portsmouth, O.; D. B. Corman of London, Ky., and W. P. Strickenburg of Meadville, Pa. Other directors are R. F. Lucier of Warsaw, Ind.; Foster B. McHenry of Jefferson City, Mo.; Kelley McNish of Bristol, Tenn.; Daniel H. McNulty of Chicago, Ill.; Samuel F. Nixon Sr. of Westfield, N. Y., and Genevieve M. Sauerhage of Springfield, Ill.

The following officers were elected by the directors: President, Mr. McHenry; vice presidents, Mr. McNulty and Miss Sauerhage, and executive secretary-treasurer, Mrs. Workman.

The following were elected members of the Pioneer association's Advisory Committee:

Inspecting the Hawaiian memento exhibit of Mayme Workman in the Pioneer hobby display room are, left to right: H. B. Couch of Topeka, Kan.; Elvin Durr of Clinton, Mo.; Miss Katherine Bauer of Jefferson City, Mo., and Cecil Elmore of Brownsville, Ky.

J. F. Benjamin of Cumberland, Wis.; Lyle E. Cross of Beaverton, Ore.; Gene R. Daubendiek of Jefferson, Ia.; R. W. Eddy of Falls Church, Va.; Stephen J. Flanagan of Louisville, Ky.; George Hamburger of Washington, D. C.; Luther H. Hodge of Elizabethon, Tenn.; John N. Johnson of Fort Myers, Fla.; Frederick R. Mather of Hamden, Conn.; Ellis C. Mull of Greenfield, Ind.; Dory J. Neale of Topeka, Kan.; Izola K. Ormand of Manhattan Beach, Cal.; Helen Phillippe of Columbia, Mo.; Mary E. Schmich of Freeport, Ill., and Howard C. Slusher of Athens, O.

THE OPERATOR'S CORNER

Concluded from page 27

days, still remembered by a number of operators who are using the modern operating methods of the present era.

Progress brings many changes and, while some things are given up reluctantly, the new methods always prove to be the best, service wise, in particular.

Traffic Questions

(1) When should a call be given emergency handling?

(2) To what are emergency calls usually related?

(3) How should the operator proceed in handling an emergency call?

(4) When the supervisor or service assistant is notified that an operator is handling an Emergency call, what action should be taken?

(5) Should the service assistant or supervisor always follow prescribed operating procedures in handling an Emergency call?

Answers are presented on page 47.

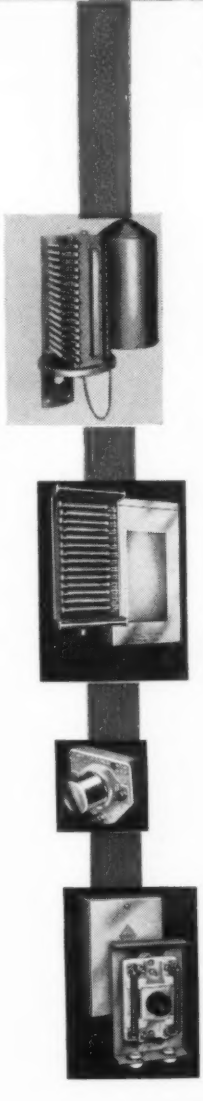
C. F. Craig, AT&T President Receives U. of Pa. Award

Cleo F. Craig, president of the American Telephone & Telegraph Co., is to receive the 1955 Gold Medal of Merit of the University of Pennsylvania's Wharton School Alumni Society, it was announced on Oct. 12.

The award, for "outstanding business leadership," will be presented at the society's annual dinner on Nov. 14 in the Bellevue-Stratford, Philadelphia.

The Fruits of Effort

"I am on familiar terms with several hundred top-rank corporation executives. I don't know a half-dozen who could be considered overly hard-boiled or ruthless. I don't know many who did not gain their top jobs just because they are more capable than other men and more willing to work hard."—DONALD I. ROGERS, *Business and Financial Editor, New York Herald Tribune.*



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Type 35 Protected Cable Terminal: Extra-strong, cast base and frame and heavily galvanized sheet-steel hood can take tremendous punishment. Two 3-ampere fuses and two .0055"-gap discharge blocks per pair.

Cat. No.	No. Pairs	6 ft. 24-ga. Stub	Shipping Wt.
SA-38	11	No	21 lbs.
SA-39	11	Yes	24 lbs.
SA-40	16	No	25 lbs.
SA-41	16	Yes	28 lbs.
SA-42	26	No	32 lbs.
SA-43	26	Yes	36 lbs.

Type 40 Protected Cable Terminal: Heavy, reversible cover allows cable to enter from top or bottom. Terminal protects 7 pairs—same fuses and blocks as above. Order SA-34 (no stub; ship. wt., 20 lbs.) or SA-35 (with 6 ft. 24-ga. stub; ship. wt., 24 lbs.).

Type 16 Substation Arrester: Two .004"-gap discharge blocks mounted on sturdy porcelain base. Order SA-57. Ship. wt., 1 lb.

Type 20 Substation Protector: Heavy-gauge metal baseplate and welded, galvanized cover stand rough handling, toughest weather. Order SB-91 (with cover; ship. wt., 4¾ lbs.), or SB-88 (no cover; ship. wt., 1¾ lbs.). Both have 7-ampere fuses and .004"-gap discharge blocks.

Address: Automatic Electric Sales Corporation, 1033 W. Van Buren St., Chicago 7. Or Call HAymarket 1-4300.

AUTOMATIC ELECTRIC

ORIGINATORS OF THE AUTOMATIC DIAL TELEPHONE

BATTERY MAINTENANCE

Concluded from page 23

(yes, batteries do explode) destroyed several cells and the office was out of service. In the office there were two blocks of 45-volt B battery connected to the voltmeter on the test panel. The man quickly connected these two dry cell blocks in parallel and substituted them for the disabled battery. Except for a little noise, because of the high resistance of the dry cells, the office operated without trouble until other arrangements were made early the next morning.

It should be noted that office failures of this type could usually be avoided if the battery were in two or more strings.

It is sometimes necessary to take a battery out of service and store it. If the battery is not properly cared for during the storage period it may be badly damaged. We know of one case where a new battery (to which the electrolyte had been added) was completely ruined by being stored without proper care for a little more than one year.

This trouble is brought about by internal discharges which cause sulfation. Lead-calcium cells are much better in this respect, but they too have a small internal discharge. The battery must be kept charged either by periodic "freshening" charges or by a continuous trickle charge. There is also a method by which the plates may be dried. However, the best method will vary with the type and make of the battery. Therefore our advice on this subject is: "*If you have a battery to be stored for more than 30 days, ask the advice of the company that made the battery.*"

Army Encampment Occasions 50% Toll Business Increase

Many Independent companies the country over have been expanding facilities to meet greatly increased toll business. One case in point is the recent installation of six auxiliary recording and rate and route positions in the Roscommon exchange of the Union Telephone Co., Owosso, Mich.

The additional positions were provided to meet toll increases up to 50 per cent by National Guard encampments at nearby Camp Grayling during four weeks in July and August. These peak periods represent 300 per cent increases since Roscommon serves a resort area in addition to Camp Grayling.

Operators at the six new auxiliary recording and rate and route positions installed by Union Telephone Co. in its Roscommon exchange are (left row, front to rear): E. Pilgrim, B. Diemert and D. Hubble. Right row (front to rear): S. Steele, D. Myas and K. Sackrider.

The auxiliary positions are filled after all toll positions are occupied. The equipment engineering and specifications were made by Howard Smith, plant equipment engineer, and the design and arrangement by J. W. Gabriel, traffic engineer.

Ohio Repairman Wins Vail Medal for Saving Child

For saving the life of a two-week-old baby last Apr. 25, Russell E. Stephens, a Wickliffe, O., telephone repairman, received the Theodore N. Vail medal, an Ohio Bell Telephone Co. citation, at a dinner honoring him on Sept. 29.

The medal, presented by Ohio Bell President John A. Greene, was in recognition of extraordinary service beyond the call of duty.

Mr. Stephens had been checking telephone wires in the basement of a Wickliffe home when the baby in the household began gasping for breath.

The child's mother and grandmother called Mr. Stephens for help. He directed the grandmother to raise and lower the child at the waist while he raised the arms up and to the side to expedite breathing. In the meantime he gave the mother the police telephone number.

The Wickliffe fire chief arrived with respirator equipment, and credited Mr. Stephens with saving the child's life.

At the hospital, the child (since recovered) was found to be suffering from pneumonia and a heart condition.

Mr. Stephens, an Ohio Bell repairman since November, 1952, was presented a check for $100.

TAKE A BIG STEP TOWARD **SAFETY** WITH **DUO-SAFETY LADDERS**

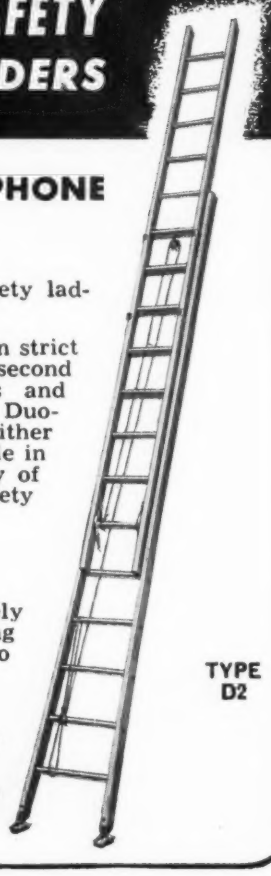
... CUSTOM DESIGNED FOR TELEPHONE MAINTENANCE WORK!

Here's one fine example of the many Duo-Safety ladders ideal for telephone maintenance work.

Type D — a truly great extension ladder built in strict accordance with safety regulations. Rungs are second growth hickory, reinforced with steel rods and equipped with special automatic locks and Duo-Safety's famous Safety Shoes. Made with either straight or parallel side rails, Type D is available in one, two or three sections — in a large variety of sizes. Write for free catalog on all Duo-Safety ladders.

IMMEDIATE DELIVERIES!

Duo-Safety ladders will be shipped immediately upon receipt of order! A planned stock-piling program assures really fast action — there's no delay the Duo-Safety way!



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809 Ninth Street • Oshkosh, Wisconsin

He joined the company in 1948 as a cable splicer's helper and in 1950 was promoted to installer.

The Theodore N. Vail Memorial Fund was established in 1920 following the death of the former president of the American Telephone & Telegraph Co., to recognize employe acts and services in emergencies reflecting responsibility for public service.

Answers to Questions On Page 45

(1) A call should be given emergency handling when a calling party states that it is an emergency or urgent call; designates it is a priority call; or indicates that it requires immediate or prompt completion for the national defense and security or to safeguard life or property.

(2) Emergency calls are usually related to such matters as serious accident; illness or death; earthquake, hurricane, tornado, fire, flood, wreck or other disaster; maintenance of essential public services; civil and military defense; riot or act of war; incidents requiring the aid of ambulance or life saving service, police, fire department, doctors, hospitals, militia and military or government authorities.

(3) The operator should give the call her undivided attention as far as this is necessary. The connection should be established as quickly as possible, meanwhile notifying the service assistant or supervisor.

(4) She should go at once to the position where the emergency call is being handled and give the call her undivided attention as far as this is necessary. She should give whatever help she can, such as directing the operator how to proceed, securing the assistance of other operators, or taking over the handling of any part of the call where this seems desirable. The Chief Operator should be informed of the emergency call at the first opportunity if she can help in any way.

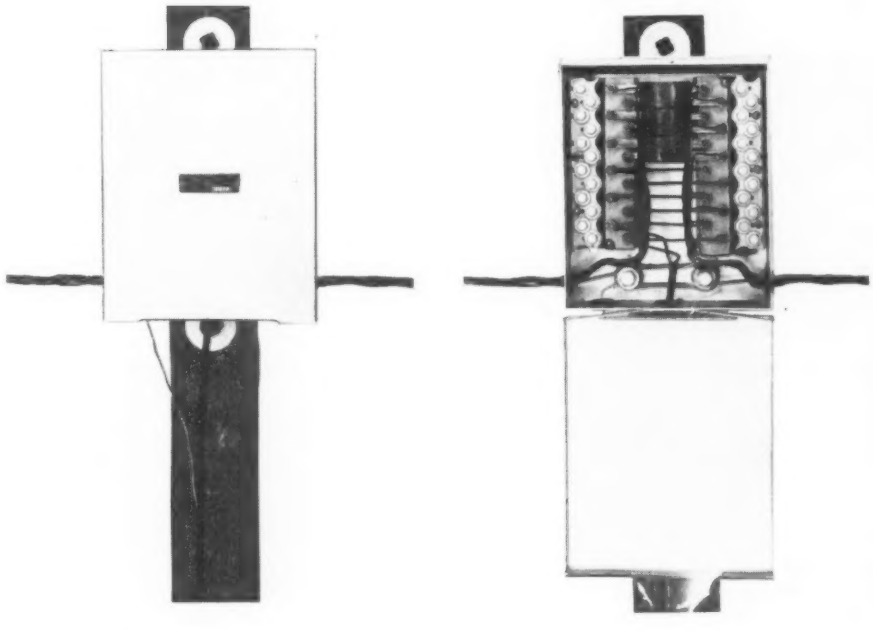
(5) The service assistant or supervisor is not bound to follow such procedure when other action appears necessary to give the service needed.

Designed specifically

for 6 Pair Rural Distribution Wire

THE TYPE 177 **Terminal Box**

can be used for ▶ CONNECTING
PROTECTING
LOADING
TERMINATING



Designed to be used with the new rural distribution wire, the 177 terminal loading case is available in 8 types. Made from cast aluminum, this combination terminal box and housing for loading coils can be used protected or unprotected. The loading coils may be either 88 MH or 44 MH as required. Normally, 88 MH coils are used for the highest transmission efficiency. The loss using 88 MH coils is approximately 0.40 DB per mile. The loss using 44 MH coils is approximately 0.48 DB per mile. For further information, write us. We'll gladly answer any questions you may have.

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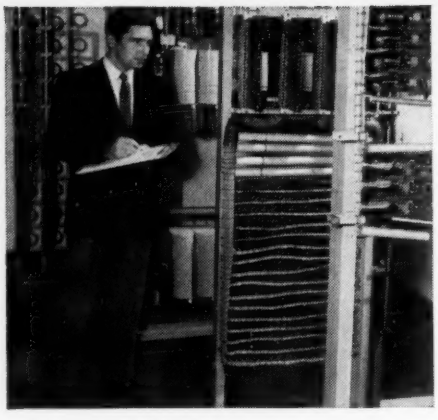

American Appraisals of reproduction cost may affect rates

An American Appraisal report of the cost of reproduction provides convincing evidence in the preparation of an appeal for adjusting rates to provide a more equitable return.

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IBM Appoints W. Hollenkamp As Manager, Communications

International Business Machines Corporation on Oct. 18 announced the appointment of W. J. Hollenkamp to manager of the communications department. In his new post Mr. Hollenkamp will be in charge of planning applications of IBM equipment to meet the accounting requirements of firms in the communications field. He was formerly a special representative in the department.

Mr. Hollenkamp joined IBM in 1945 in Los Angeles. He was assigned to the communications department in 1952.

Raytheon Makes Pittsburgh, Los Angeles Appointments

Alfred C. Werner has been appointed manager of Raytheon Mfg. Co.'s new Pittsburgh branch sales and service office, it was announced recently. He reports to Harold N. Herndon, Cleveland district manager of the Waltham, Mass., electronics firm's equipment marketing division.

Mr. Werner's appointment and the opening of the branch office is in recognition of the Pittsburgh area's growing importance for industrial and electronic equipment. The territory covered by the new office includes western Pennsylvania, eastern Ohio, and the northern part of West Virginia. Mr. Werner will sell and service Raytheon's sonic, ultrasonic, welding, and magnetizing production tool equipment, and the complete line of standard and custom transformers and electronic components.

Prior to his new appointment, Werner was assistant to the marketing manager. He joined Raytheon in 1954, after holding several administrative and sales positions with General Electric Co. and Kaiser Aluminum Co., Boston. He was also a partner and marketing consultant with James E. Jump & Associates, New York City. Mr. Werner is a graduate of Massachusetts Institute of Technology, and received his business engineering degree in 1947. During World War II, he was a naval officer.

According to another announcement from Raytheon made by Daniel J. Webster, Marketing Manager, on Sept. 12, Richard G. McLaughlin has been appointed field applications engineer for the Los Angeles district sales and service office of the equipment marketing division.

Mr. McLaughlin reports to J. Leonard Lovett, Los Angeles district manager. He is responsible for sales of microwave, telecast and communications equipment and power supplies for the telephone and utility industry.

Mr. McLaughlin was formerly applications engineer and assistant manager for the communications product planning group at Raytheon's home office. He is an electrical engineering graduate of the University of Rhode

General Telephone Directory Co. on Oct. 4 through 8 held a conference for division sales managers in the Blackstone Hotel, Chicago. Guest speakers at the meeting were Al Palmer, assistant sales training supervisor, Ohio Bell Telephone Co., and John A. Patton, president, John A. Patton Management Engineers, Inc. In attendance were (seated, left to right): David B. Simpson of Springfield, Ill.; Owen D. Stayner of Erie, Pa.; John D. O'Neil of Des Plaines, Ill.; Lawrence A. Buckland of Madison, Wis., and O. R. Stigall of Lafayette, Ind. Standing (left to right): Warren J. Murphy of Des Plaines; Donald F. Briggs of San Angelo, Tex.; Jack T. Ward of Spokane, Wash.; Edward T. Jordan of Long Beach, Cal.; Warren A. Rolph, Everett N. Morningstar, and Leland J. Mast, all of Des Plaines, and J. Paul Rossiter of Lexington, Ky.

Island, and has also done graduate work in electronics and has taken special studies in telephone communications in the Signal Corps. During the Korean War, Mr. McLaughlin was a first lieutenant with the U. S. Army Signal Corps.

Stromberg-Carlson to Start $5,000,000 Building Program

Work will start within a month on a five-million-dollar expansion program at the main plant and offices of the Stromberg-Carlson Co., a division of General Dynamics Corp., it was announced on Oct. 7 by Robert C. Tait, Stromberg-Carlson president.

The program will add more than ¼ million square feet of floor space to the firm's office, laboratory and manufacturing facilities, Mr. Tait said.

The new building will adjoin the north side of the present Stromberg-Carlson main plant in Carlson Road, occupying space now used for employe parking and for a recreation area. A new and larger parking area already is under construction behind the plant, and will be opened within the next few days, according to Mr. Tait. The recreation area will be relocated on the same site.

The building will be a two-story structure of brick, steel and reinforced concrete construction. It will be divided into three main sections: (1) an administration and research building, providing more than 100,000 square feet of space for executive and general offices, and electronic research laboratories; (2) a kitchen and cafeteria section, which also will contain an executive's dining room, and will provide office space on the ground floor; and (3) a factory building providing approximately 110,000 square feet for enlarged production facilities.

A new reception room will be located in the northeast corner of the new building, extending up through the full two stories. A luminous ceiling, and the use of modern window walls on the front of the room, will flood the room with diffused light.

Around two sides of the reception room there will be a mezzanine balcony where Stromberg-Carlson products will be displayed, and from which access will be provided to the first floor offices. The main reception area will have a marble floor.

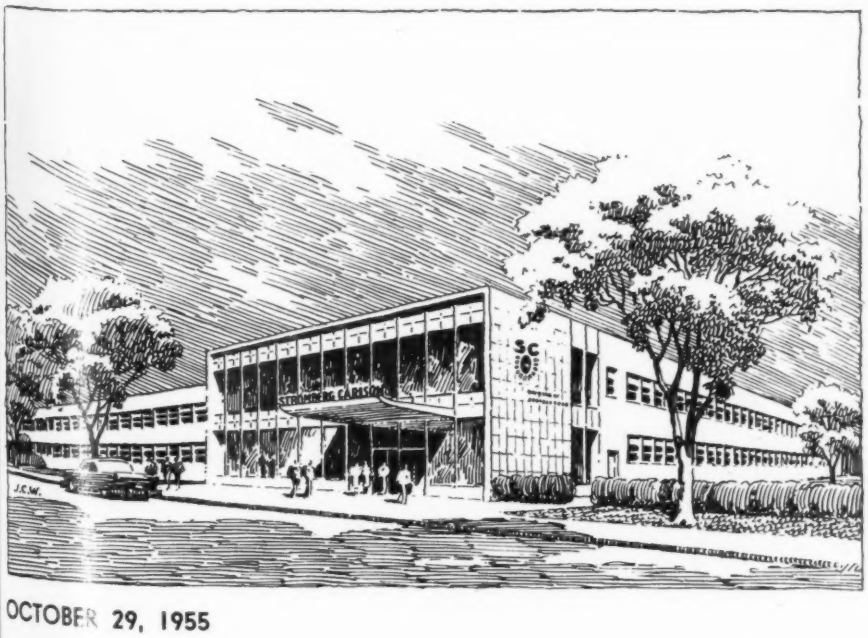
A canopy of cantilever construction, without exterior supports, will shelter the main entrance. Mullions between the large double glass wall panels in the reception area will be of tubular aluminum construction, and exterior wall surfaces in that area will be faced with granite and porcelain enamel panels. Exterior walls of most other parts of the new building will be faced with light-colored ceramic tile.

All ceilings in the office and cafeteria sections will be acoustically treated to keep noise at a minimum. Those sections also will be completely air conditioned.

There will be a penthouse on the roof of the administration and research building which will be used for microwave and radar research. Cooling towers for the air conditioning system also will be located there.

Service facilities, airconditioning pumps and compressors, and other equipment, will be located in a basement under a portion of the administration and research building.

In the factory section of the new structure, the use of 60-foot trusses will provide large unobstructed areas for the most efficient placement of machines and assembly lines on the first floor.



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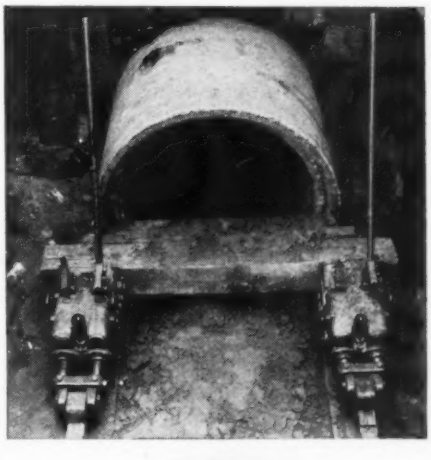

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The entire building will be equipped with automatic sprinklers for fire protection.

Ground will be broken later this month for the project, and the work will be pushed as rapidly as possible, Mr. Tait said. It is expected that the factory section will be completed and ready for occupancy in 1956, and the administration and research, and cafeteria sections in early 1957.

C. George Dandrow Appointed To Johns-Manville Post

C. George Dandrow has been appointed to the newly created post of vice president for customer relations, it has been announced by A. R. Fisher, president of Johns-Manville Corp.

In his new post, Mr. Dandrow will aid company divisions in sales of all J-M products to the utility, transportation, industrial and building construction fields, as well as handle company trade relations activities.

Mr. Dandrow, who has been general sales manager of the recently split J-M industrial products division, continues as vice president of Johns-Manville Sales Corp., a position to which he was elected in 1946. He will assume his new duties on Jan. 1, 1956.

A graduate of Massachusetts Institute of Technology, Mr. Dandrow brings to his new post 33 years of sales and management experience with Johns-Manville, augmented by service on a number of important organizations in engineering, construction, architecture and general industry.

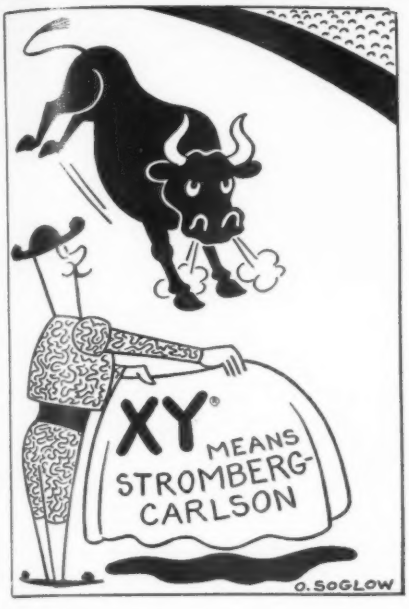
North Electric Appoints Two Sales Engineers

Appointment of Paul E. Meier and Robert L. Vandenberg as sales engineers for North Electric Co., Galion, O., is announced by D. F. Snyder, sales manager.

Mr. Meier was formerly employed with Western Electric Co., Inc. and General Telephone Co. of Upstate New York, Inc. He studied electrical engineering at Newark (N. J.) College of Engineering and served in the Army during World War II.

Mr. Vandenberg was formerly with

Turning the first shovel of earth to signal the start of construction on the new $200,000 factory and office building for Lenkurt Electric Co. of Canada, Ltd., is REEVE C. McSORLEY, Burnaby, B. C. The new building—to have twice the production capacity of the present Vancouver plant—is being constructed on a 9-acre site in Burnaby, just east of Vancouver. The company is an affiliate of Lenkurt Electric Co. in San Carlos, Cal., and manufactures multi-channel telephone and telegraph carrier and microwave systems. Shown at the ground-breaking are (left to right): A. M. ELLIOTT, manager of Lenkurt's production control division in California; MR. McSORLEY; MARK SWAILES, factory superintendent of the Canadian plant, and C. W. HUNTER, sales engineering manager for Canada.



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P. E. MEIER

R. L. VANDENBERG

Texas Telephone & Telegraph Co. and Northwestern Bell Telephone Co. He attended Omaha (Neb.) University and served in the Navy during World War II.

Both men will be located at the Galion office.

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